

Your challenge is to make an alien, rocket, spaceship or another space creature of your choice from the craft material we've provided, and integrating a Raspberry Pi Pico into your creation, for example:

- If you make a rocket or ship, you might want to use LED's to light it up
- If you make an alien or creature, you might want to use a buzzer to help them communicate
- These are just ideas, you can use whichever components you'd like!
- If you don't fancy this challenge and you'd like to do something else space themed or completely different that's ok too!



**Remember at CoderDojo, if you make it, you can play it, and if you get stuck, ask another Ninja to see if they can help!**

If you've forgotten how to use LED's and Picos, there's a cheat sheet on the other side!

If you've not used a pico before, then start by completing the **Raspberry Pi Pico pathway**. If you are using a Dojo laptop:

- Go the desktop
- Go to the folder **L1 Introduction to Pi Pico**
- Open **1 LED Firefly.pdf** which covers how to use LED's
- Then move on to **2 Party Popper.pdf** covers how to use buzzers (and LED's)

If you're using your own laptop, just ask one of our volunteers for a copy!

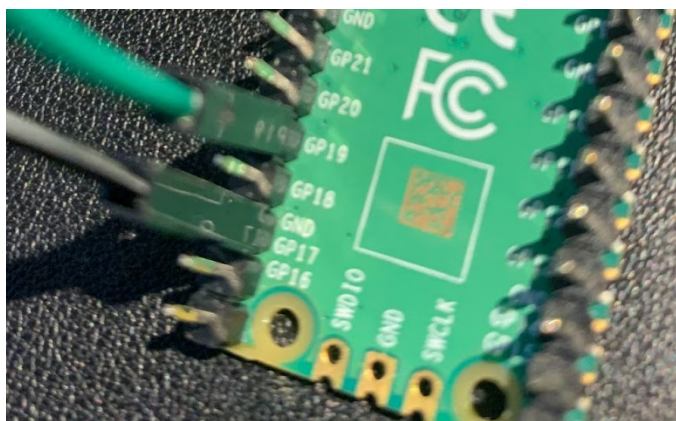


## Quick reminder on how to make an LED flash

- Open Thonny and create a new file
- Make sure you are saving to the Pico (click in the bottom right corner)
- Type the following code:

```
1 from machine import Pin
2 import utime
3
4 led = Pin(19, Pin.OUT)
5
6 while True:
7     led.toggle()
8     utime.sleep(1)
```

- Click save, and select save to '**Raspberry Pi Pico**'
- Pick up an LED with 2 legs, and 2 jumper wires
- Connect one end of the first jumper wire to the **long leg** of the LED
- Connect the other end of the first jumper wire to pin **GP19** on the Pico
- Connect one end of the second jumper wire to the **short leg** of the LED
- Connect the other end of the second jumper wire to **any pin marked GND**



- In Thonny, press the green play button
- Your LED should now flash on or off!

