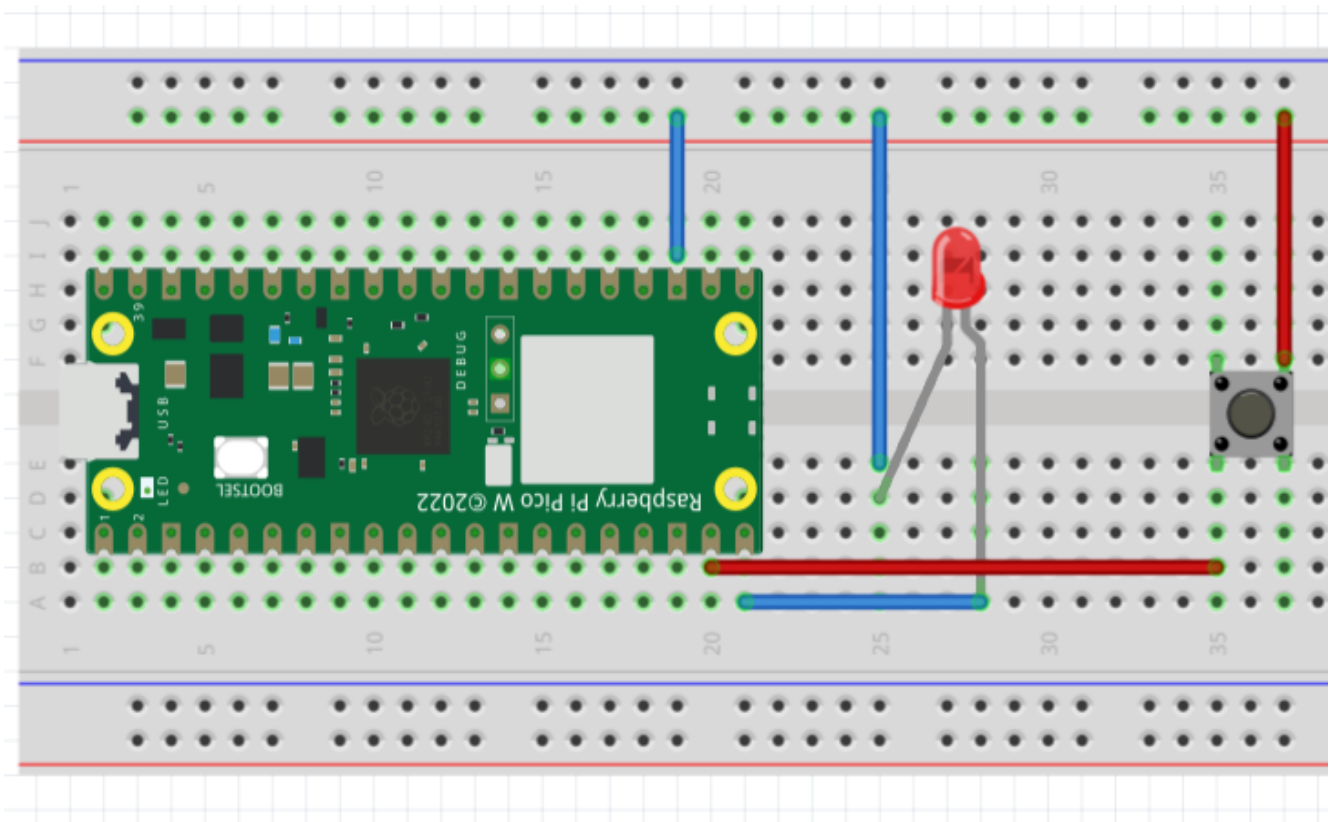


LESSON 3

Use a Button to Control an LED

Raspberry Pi Pico W - Student Guide



Lesson Objective

Learn how a push button can control an LED connected to the Raspberry Pi Pico W.

Press Button



Raspberry Pi Pico W



LED on GP15 toggles ON / OFF

Hardware Setup

The LED is connected to **GP15**. The push button is connected to **GP14**.

Python Code

File name: lesson3.py

```
from picozero import LED, Button

led = LED(15)
button = Button(14)

button.when_pressed = led.toggle
```

Understanding the Code

Code	Meaning
<code>from picozero import LED, Button</code>	Imports the LED and Button tools from the PicoZero library.
<code>led = LED(15)</code>	The external LED is connected to GP15 .
<code>button = Button(14)</code>	The push button is connected to GP14 .
<code>button.when_pressed = led.toggle</code>	When the button is pressed, the LED changes state.

What does toggle mean?

toggle means change to the opposite state.

If the LED is OFF, pressing the button turns it ON.
If the LED is ON, pressing the button turns it OFF.

In Simple Words

Press the button on GP14 to change the LED on GP15 between ON and OFF.

Key Learning Point

A button is an **input** because it sends information to the Pico W. An LED is an **output** because the Pico W controls it.