

# Code A Christmas Tree

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This is a tutorial to code a micro:bit Christmas Tree from PocketMoneyTronic.

## What You Will Need

- 1 x micro:bit
- 1 x micro USB cable
- 1 x PocketMoneyTronic Christmas Tree
- 3 x Crocodile / Alligator Clips
- MakeCode Coding editor

## Connecting The Christmas Tree To The micro:bit

Using the three crocodile/alligator clips we need to connect the Christmas tree to the micro:bit.

1. Take one crocodile/alligator clip and attach it to the circle marked **LED** on the Christmas tree. Take the other end of the crocodile/alligator clip and attach it to the circle marked **0** on the micro:bit.
2. Take another crocodile/alligator clip and attach it to where it says **3v** on the Christmas tree. Take the other end of the crocodile/alligator clip and attach it to **3v** on the micro:bit
3. Take the last crocodile/alligator clip and attach it to **GND** on the Christmas tree. Take the other end of the crocodile/alligator clip and attach it to **GND** on the micro:bit.

Once all the wires are connected between the micro:bit and Christmas tree it should look something like this:



## Coding The Christmas Tree

To code your Christmas tree we first need to open the MakeCode editor. You can do this by typing [www.makecode.microbit.org](http://www.makecode.microbit.org)

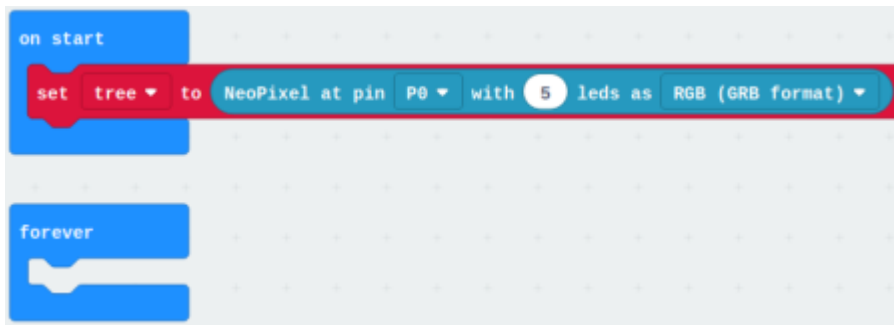
## Importing The Neopixel Extension

1. Select Extensions
2. Type **neopixel** into the search bar
3. Select **neopixel**

## Setting Up The Neopixels

1. Select **Variables**
2. Select **Make a Variable...**
3. Type **tree** and press enter
4. Select **Neopixel**
5. Select and drag a **set strip to NeoPixel at pin P0 with 24 leds as RGB (RGBformat)** to the coding area and attach it within the **on start** Code block.
6. Select the arrow next to **strip** and click on **tree**
7. Select **24** and type **5**. This is how many neopixels are on the Christmas Tree.

Your Code should now look like this:



We now have the Neopixels configured in MakeCode. We can now code our Christmas tree!

## Lighting Up Our Tree

1. Select **Neopixel**
2. Select and drag a **strip show rainbow from 1 to 360** to the coding area and attach it within the **forever** block
3. Select the small arrow next to **strip** and select **tree**

Your code should now look like this:



## Downloading your code to the micro:bit

1. Pair the micro:bit to your computer
2. Select Download

You will now see the light on the back of your micro:bit. Once this has finished, you should see your Christmas tree light up.

## Rotating Colours

