

✂ Components Needed:

- Arduino Uno
 - 3 LEDs (Red, Yellow, Green)
 - 220Ω Resistors (one for each LED)
 - Push Button (optional, for switching modes)
 - Breadboard and Jumper Wires
 - USB Cable or 9V Battery for Power
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🔧 How It Works:

This project simulates how a basic traffic light works using Arduino and LEDs:

1. **Red LED** turns ON for a few seconds → indicating **STOP**.
2. Then the **Yellow LED** blinks for a short time → indicating **WAIT**.
3. Finally, the **Green LED** turns ON → indicating **GO**.
4. The loop repeats in the same order.

You can even use a **push button** to change modes manually or trigger different light sequences (like pedestrian mode or emergency mode).

🔌 Connections Overview:

- Connect the **Red LED** to Digital Pin 8
- **Yellow LED** to Digital Pin 9
- **Green LED** to Digital Pin 10
- Connect **220Ω resistors** in series with each LED
- **Push Button** can be connected to Digital Pin 2, with one leg to ground