

Blink an LED with Arduino: Wiring and the Resistor

Mokxi · one-page lesson plan

OBJECTIVE

Wire an LED and a resistor to an Arduino Uno and blink it. See why the resistor value matters, and the running circuit before you own the parts.

WHAT YOU NEED

Full-size breadboard, Arduino Uno R3, Resistor, LED

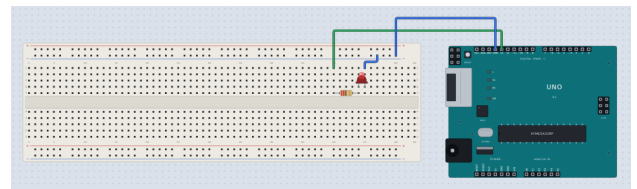
STEPS

- Wiring the LED and picking the resistor — An LED has a long leg, the anode, and a short leg, the cathode, and it only conducts one way around: current...
- The code, line by line — The whole sketch is eight lines outside its comments.
- Common mistakes — The LED wired backwards is the single most common reason a first circuit stays dark, and it is worth checking...
- Moving from the simulator to a real breadboard — Everything in the circuit above transfers to a real Uno unchanged: the same pin, the same resistor value, the...

FIRMWARE/EXAMPLES/BLINK (THE EXACT PROGRAM RUNNING ABOVE)

```
void setup() {  
  pinMode(LED_BUILTIN, OUTPUT);  
}  
  
void loop() {  
  digitalWrite(LED_BUILTIN, HIGH);  
  delay(500);  
  digitalWrite(LED_BUILTIN, LOW);  
  delay(500);  
}
```

THE CIRCUIT



ASSESSMENT IDEA

Have the student rewire the LED and resistor to a different pin, update the two lines in the sketch that name it, and show the on-board and breadboard LEDs blinking in step.

<https://mokxi.com/learn/blink-an-led-arduino>