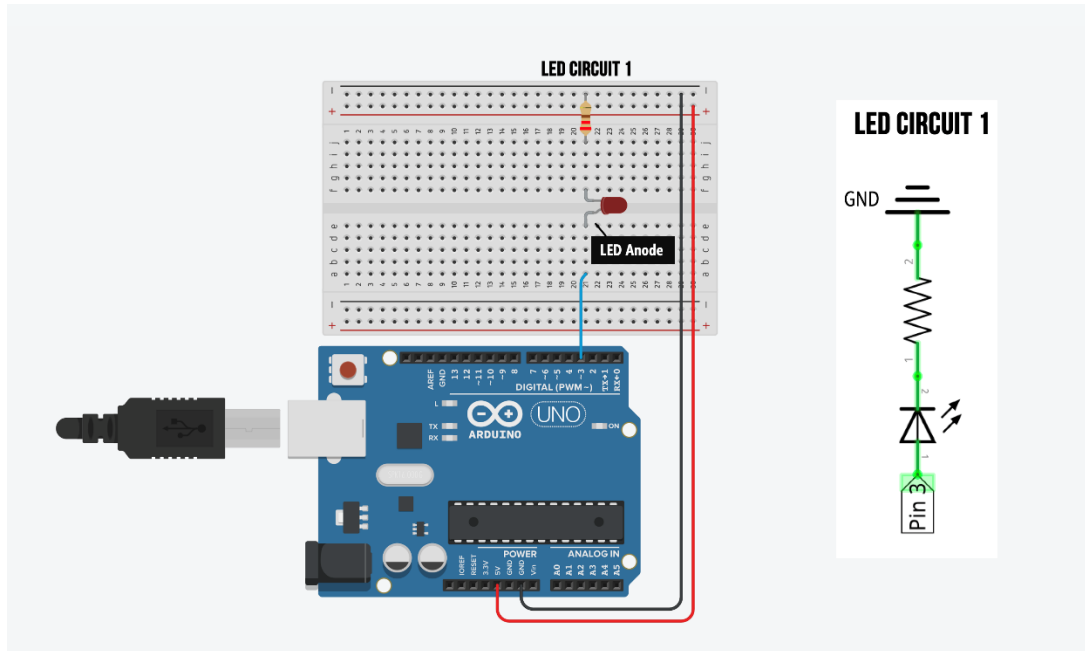


# Basic Tinkercad Project

## Blinking Two LEDs Using Arduino



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### Aim

To control two LEDs using an **Arduino Uno** by providing output signals through digital pins.

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### Components Required

- Arduino Uno
  - Breadboard
  - $2 \times$  LEDs
  - $2 \times$  Resistors ( $220\Omega$  or  $330\Omega$ )
  - Jumper wires
  - 9V Battery (or USB power)
- 

### Basic Concept

- Arduino digital pins give **HIGH (5V)** or **LOW (0V)**
- HIGH  $\rightarrow$  LED ON

- LOW → LED OFF
  - Resistor limits current and protects LED
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## Pin Connection

### LED 1

- Anode (long leg) → **Pin 8**
- Cathode (short leg) → **Resistor** → **GND**

### LED 2

- Anode → **Pin 9**
- Cathode → **Resistor** → **GND**

### Power

- Arduino powered using:
    - USB cable **or**
    - 9V battery to **VIN and GND**
- 

## Step-by-Step in Tinkercad

1. Open **Tinkercad** → **Circuits** → **Create New**
  2. Place:
    - Arduino Uno
    - Breadboard
    - Two LEDs
    - Two resistors
  3. Connect LEDs to **Pin 8 and Pin 9**
  4. Connect resistors to **GND rail**
  5. Connect Arduino **GND** to **breadboard GND**
- 

## Arduino Code

```
int led1 = 8;
int led2 = 9;

void setup()
{
  pinMode(led1, OUTPUT);
  pinMode(led2, OUTPUT);
}
```

```
void loop()
{
  digitalWrite(led1, HIGH);
  digitalWrite(led2, LOW);
  delay(1000);

  digitalWrite(led1, LOW);
  digitalWrite(led2, HIGH);
  delay(1000);
}
```

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## Working

- LED1 glows for 1 second
  - LED2 glows for next 1 second
  - They blink **alternatively**
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## Output

- Two LEDs blink one after another continuously.