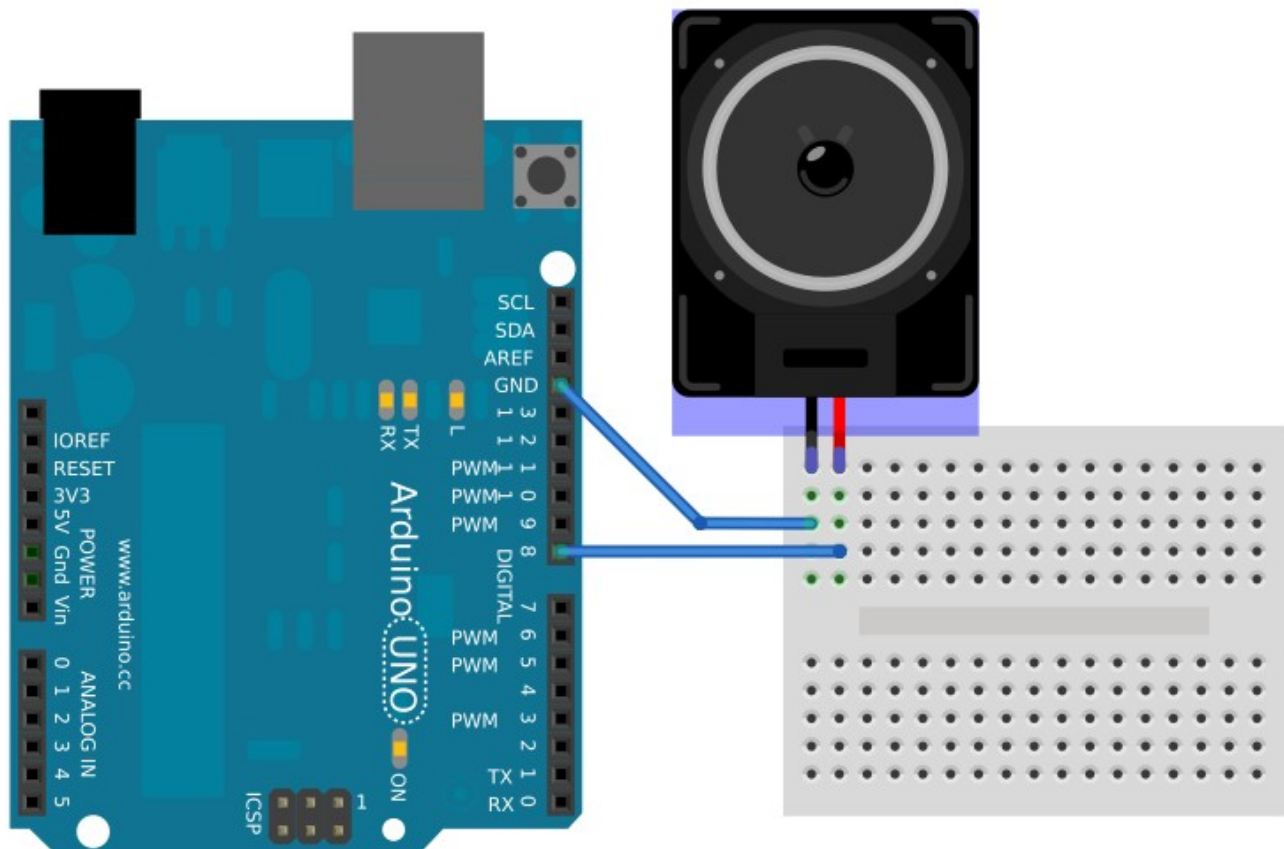


Speaker

- use a breadboard for connecting it to your Arduino
- note: there is an additional “ground” pin on the digital pin side of the board, used in this schematic. There is no difference to the other two “ground” pins.
- check out the program: this one has all action all in the “setup” part, and nothing in “loop”.



Sample Code: making music!

```
/*
  Plays a melody
  created 21 Jan 2010  modified 30 Aug 2011  by Tom Igoe
  This example code is in the public domain.

*/
#include "pitches.h"

// notes in the melody:
int melody[] = {
  NOTE_C4, NOTE_G3,NOTE_G3, NOTE_A3, NOTE_G3,0, NOTE_B3, NOTE_C4};

// note durations: 4 = quarter note, 8 = eighth note, etc.:
int noteDurations[] = {
  4, 8, 8, 4,4,4,4,4 };

void setup() {
  // iterate over the notes of the melody:
  for (int thisNote = 0; thisNote < 8; thisNote++) {

    // to calculate the note duration, take one second
    // divided by the note type.
    //e.g. quarter note = 1000 / 4, eighth note = 1000/8, etc.
    int noteDuration = 1000/noteDurations[thisNote];
    tone(8, melody[thisNote],noteDuration);

    // to distinguish the notes, set a minimum time between them.
    // the note's duration + 30% seems to work well:
    int pauseBetweenNotes = noteDuration * 1.30;
    delay(pauseBetweenNotes);

    // stop the tone playing:
    noTone(8);
  }
}

void loop() {
  // no need to repeat the melody.
}
```

Source:

<http://arduino.cc/en/Tutorial/Tone>