

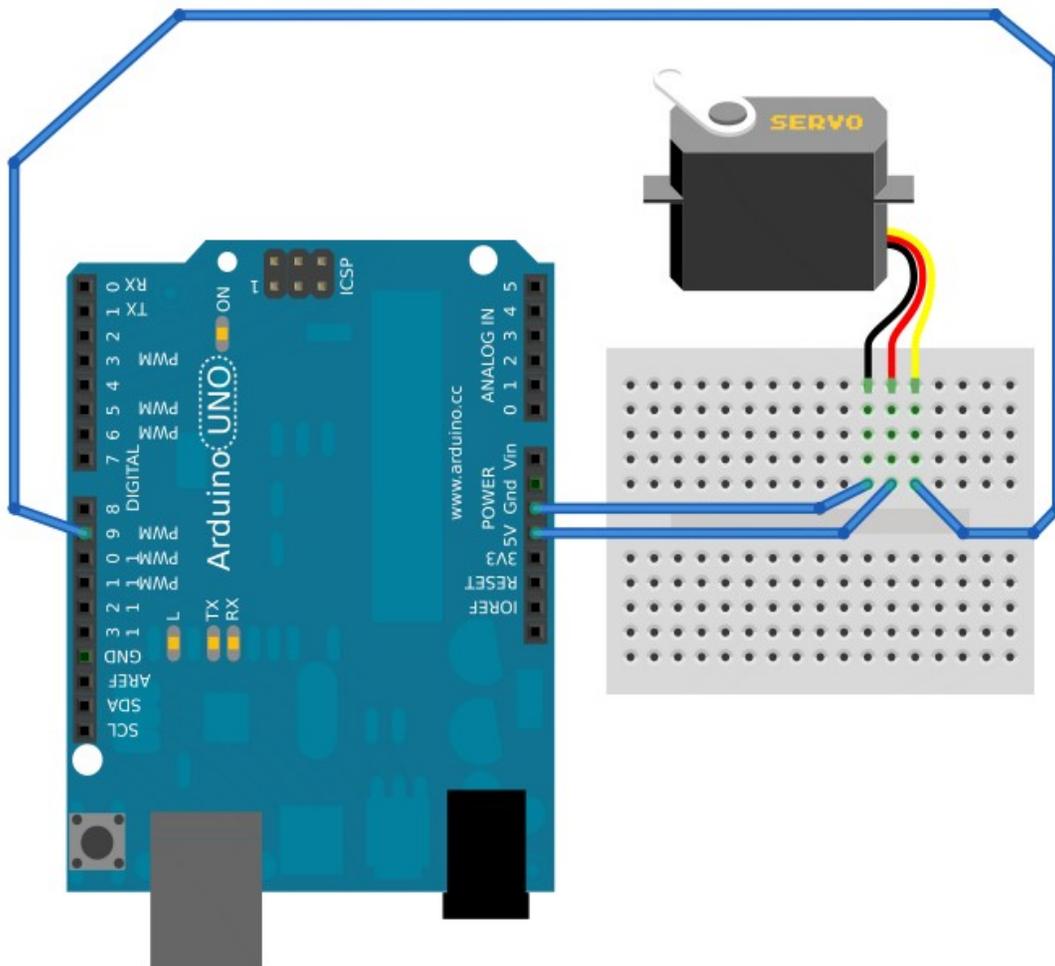
# Servo Motor

- **Do not turn the servo manually.** The gears in these mini-servos are so small, they will break.
- Use a breadboard and the servo adapter in your kit for connecting your servo to your Arduino.

**Colours for the wires on servo motors differ depending on the manufacturer.**

- the positive wire for the servo's supply voltage (5V) is usually the one in the middle of the ribbon of three wires (red in the example below). Ground is often black or brown.
- the third wire is for control, shown yellow in the picture below, but might be different for the servo provided in your kit.
- if correctly attached, your servo should repeat a slow right/left turn motion

If you want to change the code to alter motion range, be aware that servos are restricted to a motion of 90 to 120 degrees (special types can have wider range) They do not turn continuously like other motors.



## **Sample Code: SWEEP**

```
// Sweep
// by BARRAGAN <http://barraganstudio.com>
// This example code is in the public domain.

#include <Servo.h>

Servo myservo;           // create servo object to control a servo
                        // a maximum of eight servo objects can be created

int pos = 0;            // variable to store the servo position

void setup()
{
  myservo.attach(9);    // attaches the servo on pin 9 to the servo object
}

void loop()
{
  for(pos = 0; pos < 180; pos += 1) // goes from 0 degrees to 180 degrees
  {
    myservo.write(pos);           // tell servo to go to position in variable 'pos'
    delay(15);                    // waits 15ms for the servo to reach the position
  }
  for(pos = 180; pos>=1; pos-=1) // goes from 180 degrees to 0 degrees
  {
    myservo.write(pos);           // tell servo to go to position in variable 'pos'
    delay(15);                    // waits 15ms for the servo to reach the position
  }
}
```

Source:

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

### **Sample Code: POTENTIOMETER (=knob)**

The schematic shown above does not include the knob. You have to find out how and where to attach it to make it work with this code.

```
}

// Controlling a servo position using a potentiometer (variable resistor)
// by Michal Rinott <http://people.interaction-ivrea.it/m.rinott>

#include <Servo.h>

Servo myservo;           // create servo object to control a servo

int potpin = 0;          // analog pin used to connect the potentiometer
int val;                 // variable to read the value from the analog pin

void setup()
{
  myservo.attach(9);     // attaches the servo on pin 9 to the servo object
}

void loop()
{
  val = analogRead(potpin); // reads the value of the potentiometer (value between 0 and 1023)
  val = map(val, 0, 1023, 0, 179); // scale it to use it with the servo (value between 0 and 180)
  myservo.write(val);      // sets the servo position according to the scaled value
  delay(15);               // waits for the servo to get there
}
```

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

Read a good article about servo control and see some inside views [here](#).