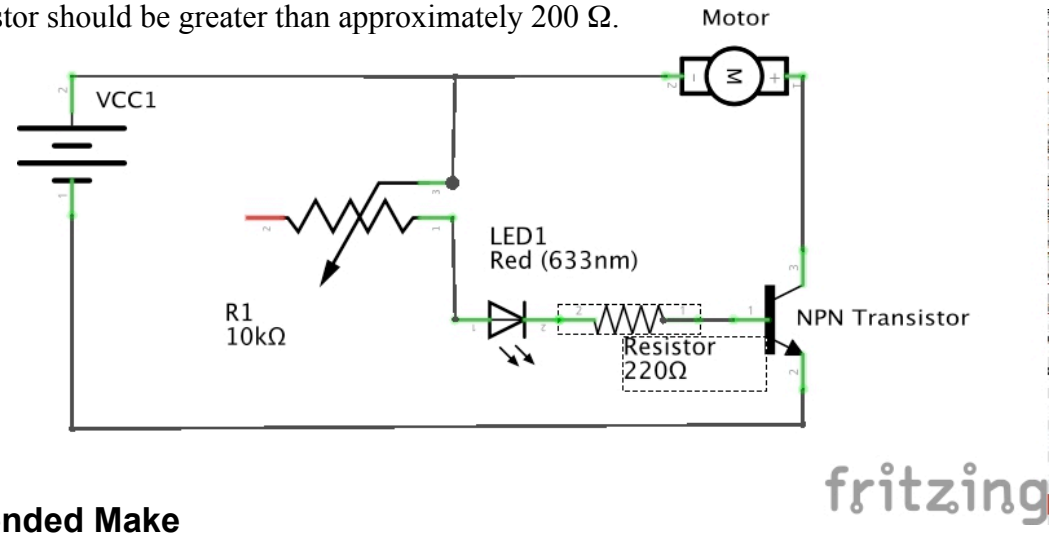
Conceptual

You can use the Arduino microcontroller to turn on a transistor using a digital output pin.

- ☐ Explore the large variable resistor
- ☐ Draw a schematic and internal diagram of your potentiometer.
- ☐ Review soldering guidelines –

Basic Make

- ☐ Solder breadboard pins to potentiometer (variable resistor)
- ☐ Make the circuit below
  - Note: To avoid burning out the potentiometer the resistor should be greater than approximately 200 Ω.



Advanced/Extended Make

- ☐ Replace variable resistor with photoresistor
- ☐ Duplicate diagrams using Fritzing

Equipment

- ☐ Computer with access to Fritzing
- ☐ Circuit components: Variable resistor

Objective

Physics Concepts

- ☐ Resistance – resistivity (material), length and cross section of wire

Experimental analysis

- ☐ Circuit design
- ☐ DMM resistance measurements

Technology Concepts

- ☐ Soldering Technique
- ☐ Schematic Symbols