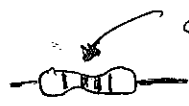


A super-quick intro to Electronics

(by UBC Engineering Physics)

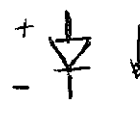
Resistors



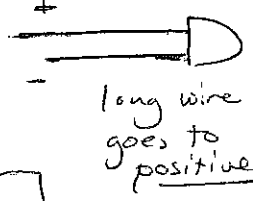
colours indicate resistance in ohms

LED's

(light-emitting diodes)

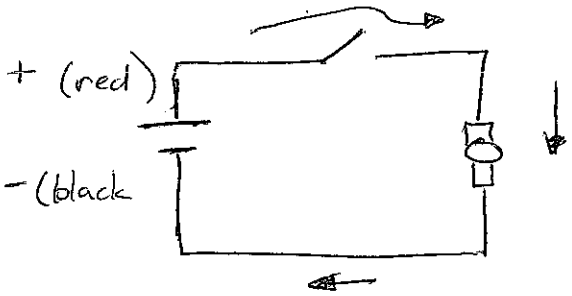


current goes through this way



long wire goes to positive

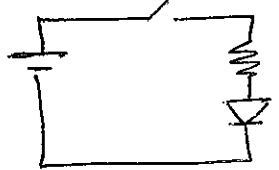
(A)



- ① current flows from positive to negative
- ② use a switch to turn the circuit on and off
- ③ switch the wires on the motor to reverse the motor direction

(B)

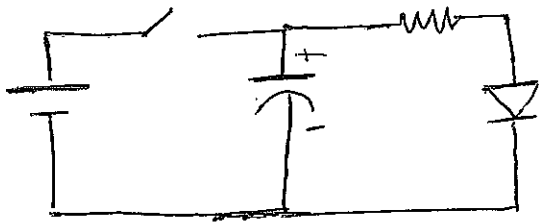
LED



- ① needs a resistor if hooked to the battery directly
- ② only works in one direction (LED only carries current from + to -)

(C)

LED + capacitor

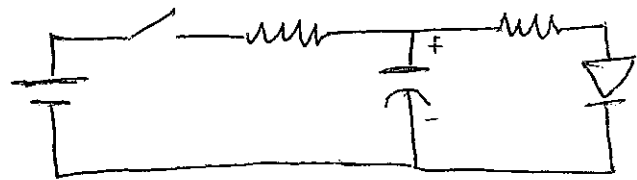


- ① capacitor has a polarity. Do not plug in backwards!

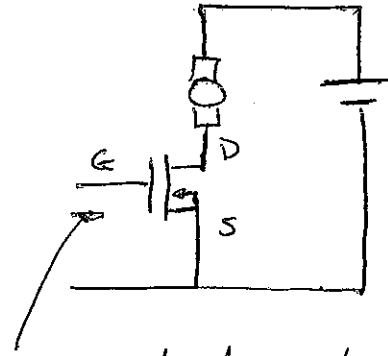
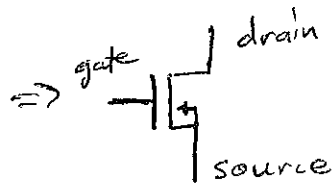
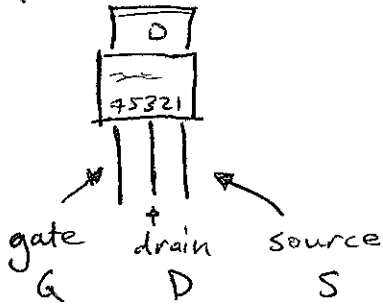


shorter lead is negative, and is marked.

also: try this setup:



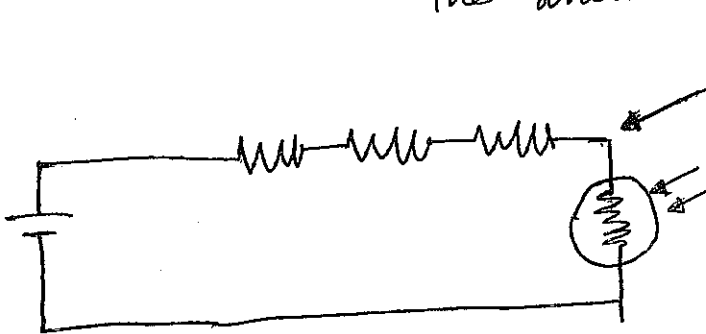
① MOSFET (HUF 75321)



Connect the gate to high voltage and low voltage to turn on and off.

② Photocell

acts like a variable resistor depending on the amount of light.



variable point (measure here)
resistance varies from very high to low depending on the light. Use a number of resistors to act as a voltage divider to get the output into the correct range.