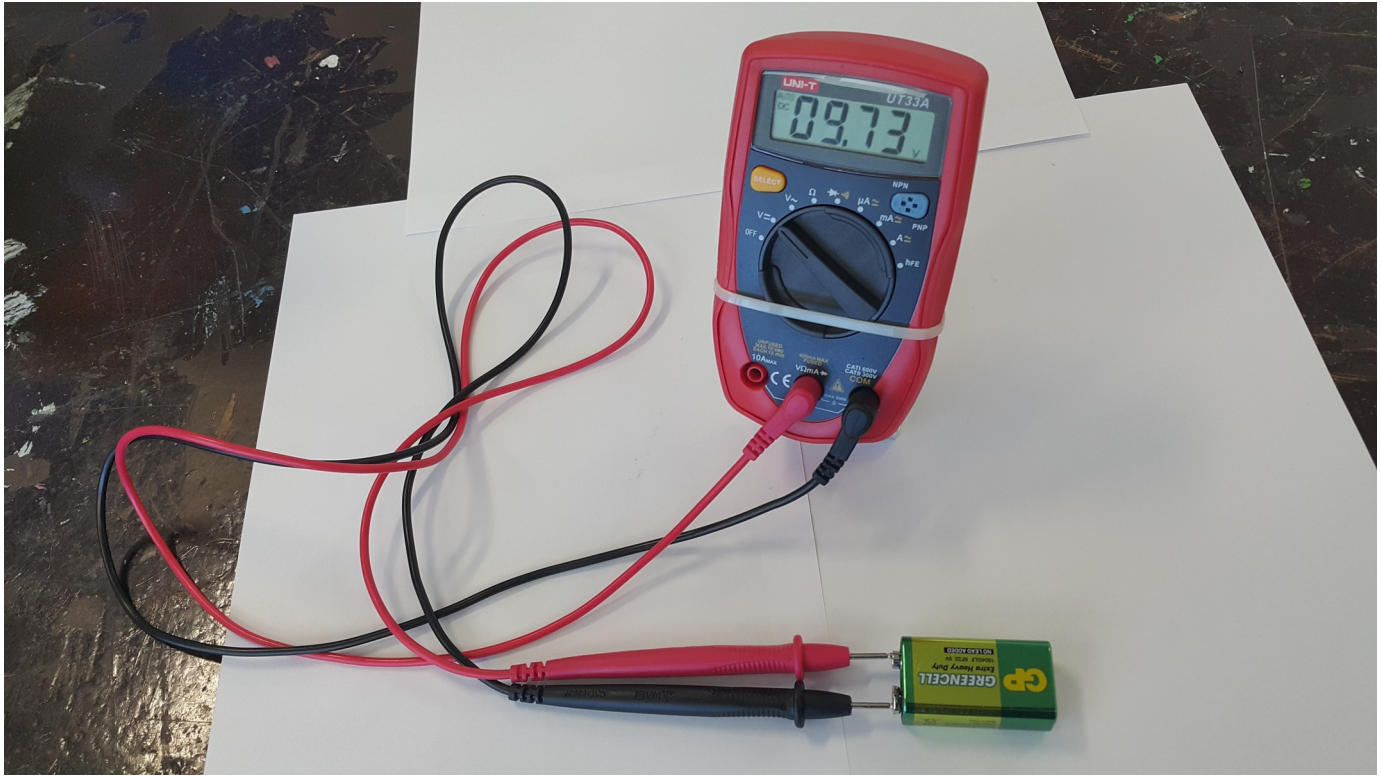
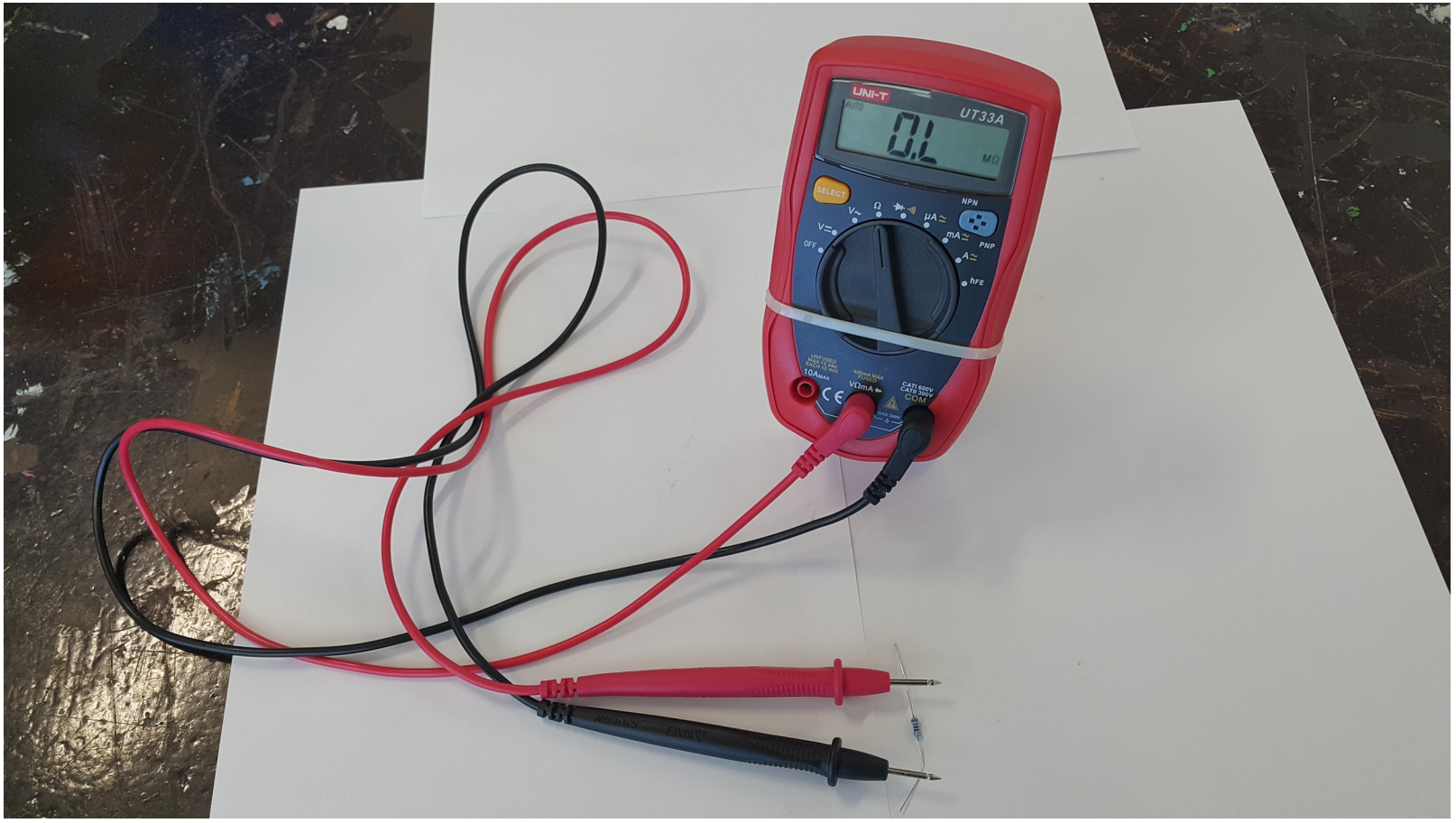
Using the multimeter

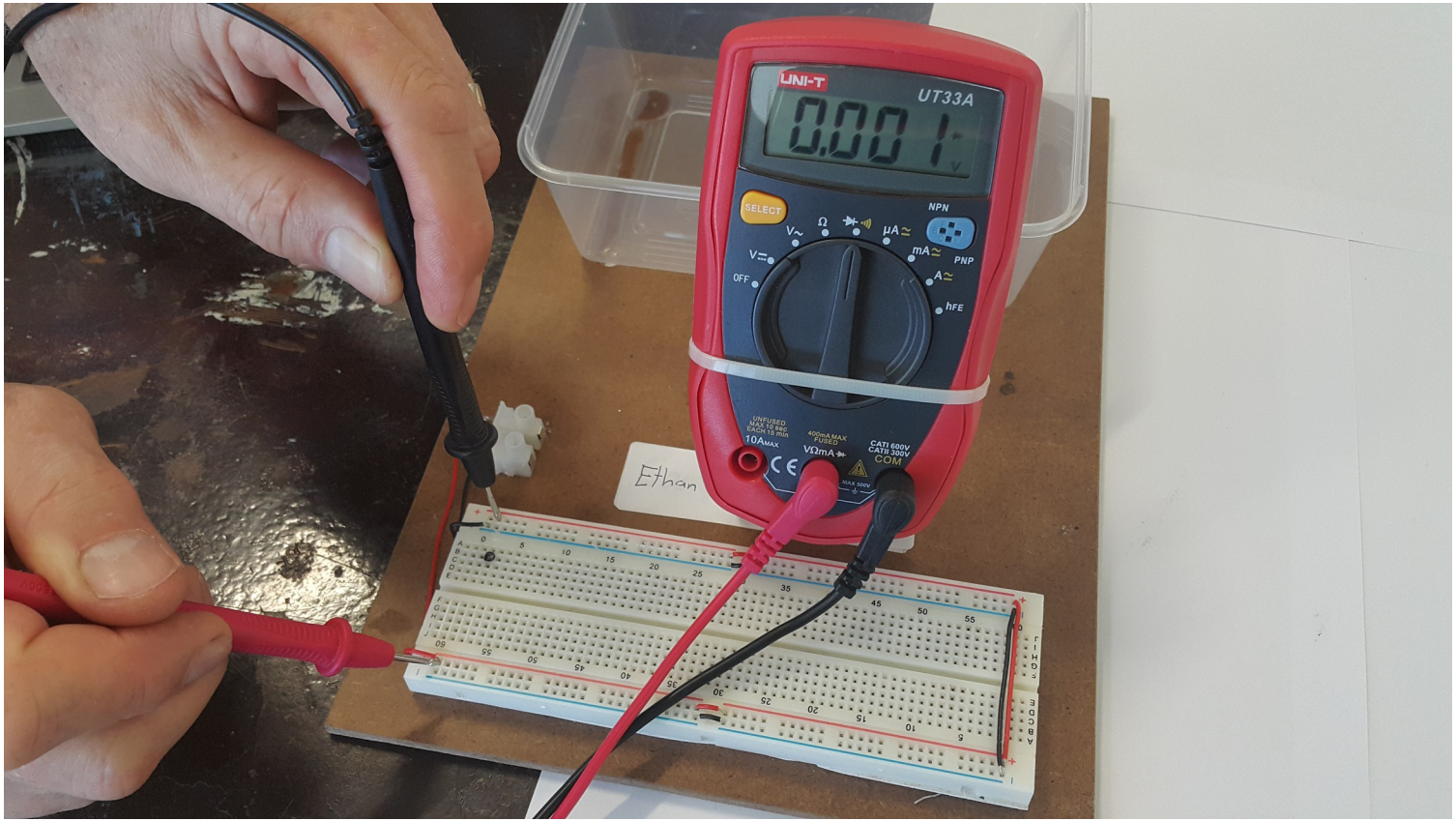
1- Measuring voltage across a battery

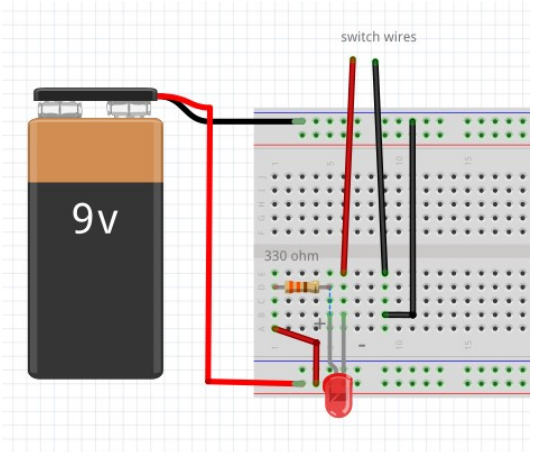


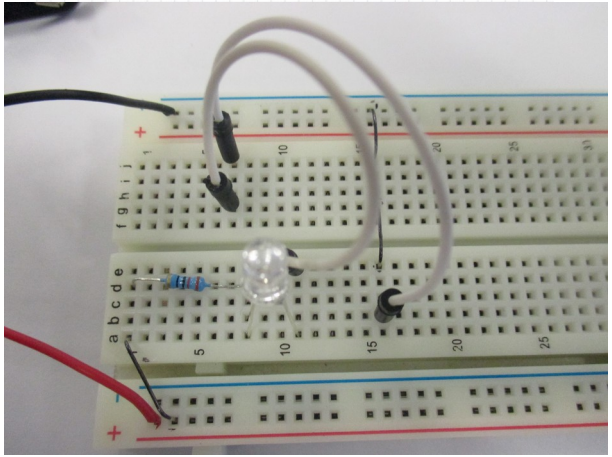
2- Measuring Resistance



3- Measuring Continuity Circuit







Basic Circuit and Transistor Circuit Measurements

Follow the instructions on these slides to build your breadboard circuits, make the measurements and answer the questions

- You can work together to make measurements using the multimeter, but you must **answer the questions individually**
- You can copy/paste the questions from these slides into your own slides (do not include the instructions given in these slides though)

Build the basic circuit on your breadboard using Tinkercad layout and the breadboard photo shown here as a guide (use a multimeter set to Ω to measure the resistor value)

- two hook-up wires are used for the switch, to enable the circuit to remain on the switch wires can be plugged into a common row as shown

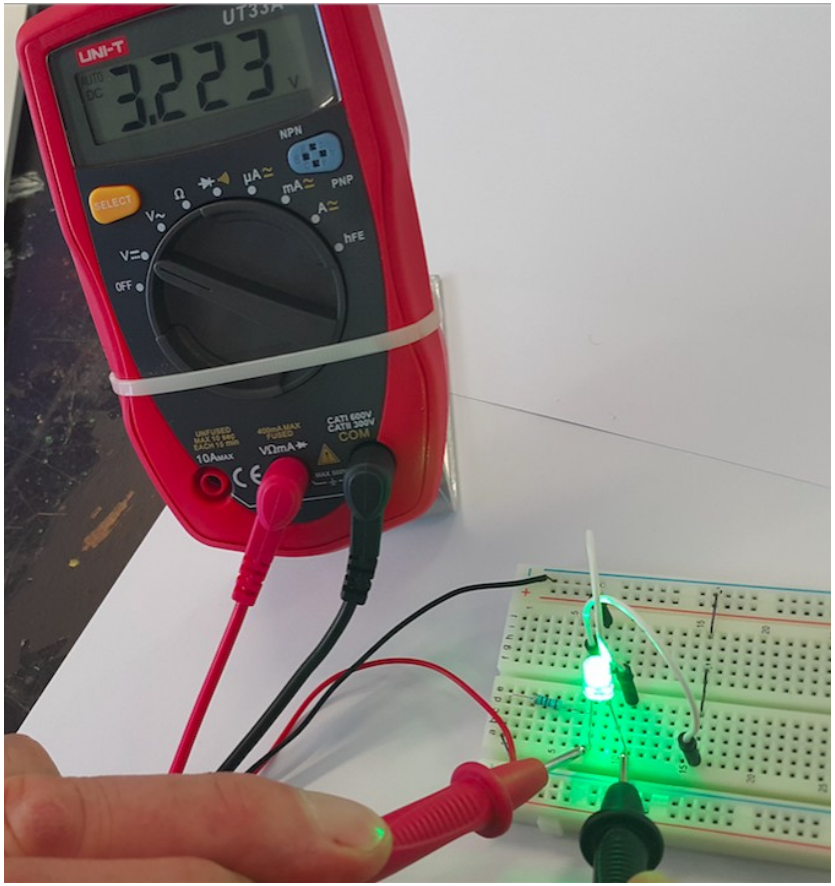
photo of your breadboard with the basic circuit here

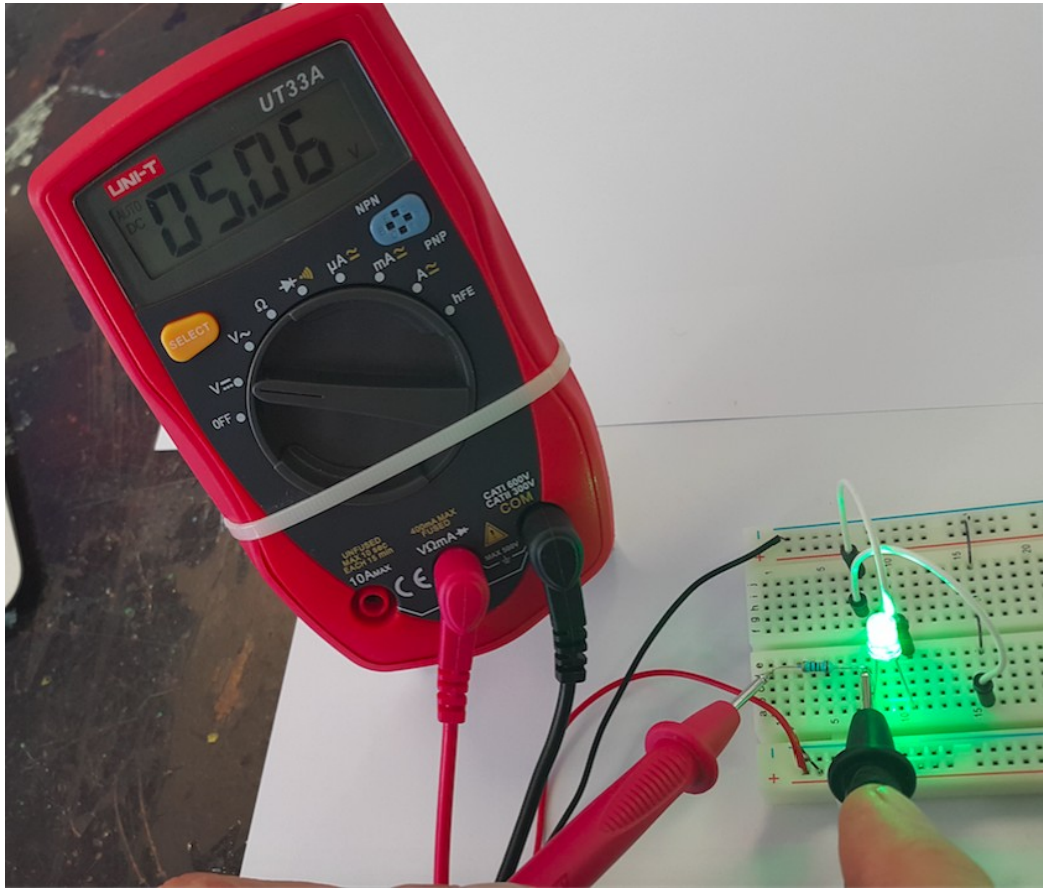
Task 1:
Take a photo of your working breadboard and insert it into your slides

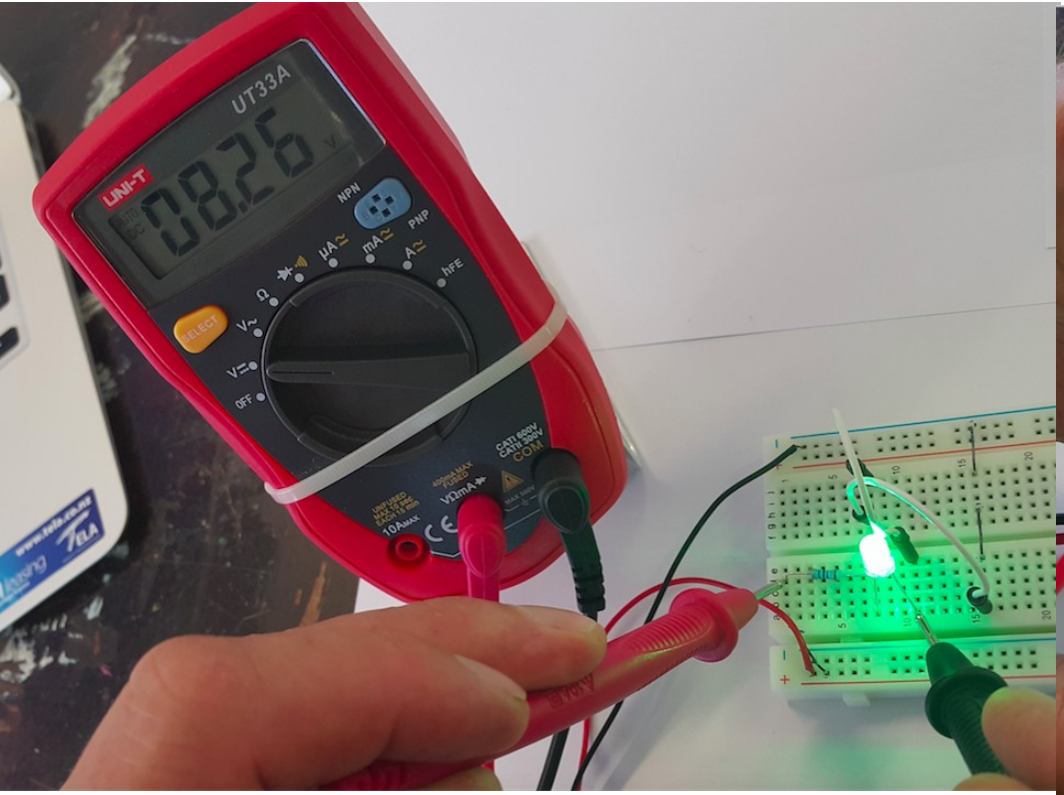
With your switch wires connected together and LED on, set your multimeter to measure voltage **(DC -)**

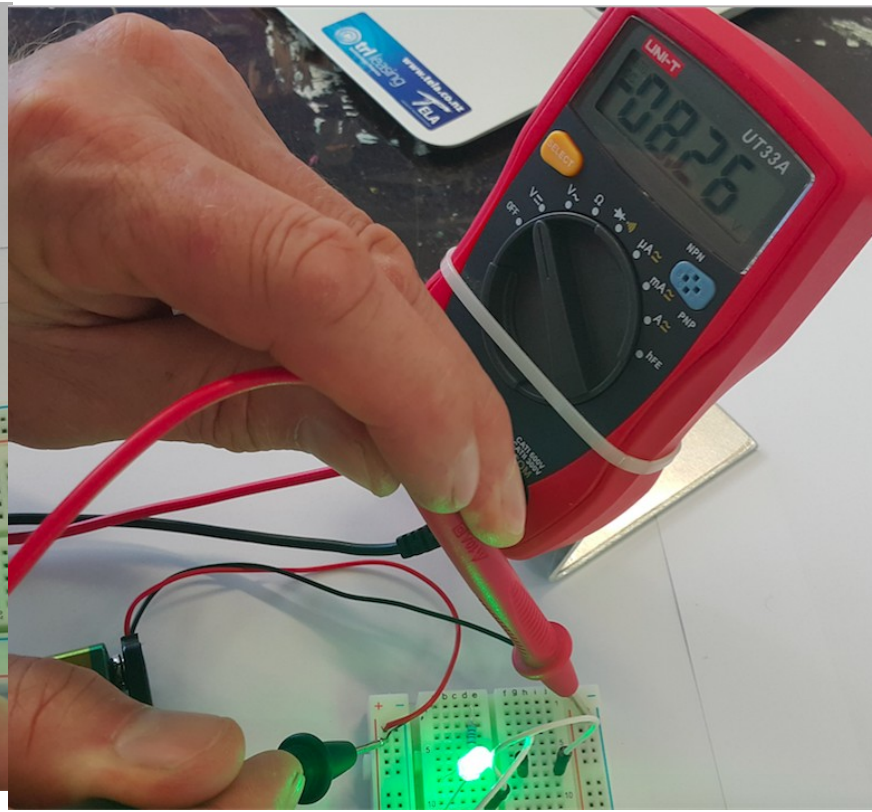
Measure the voltage across the LED
Voltage =
Measure the voltage across the 330 ohm resistor
Voltage =
Measure the voltage across the +ve and -ve rails (the battery voltage)
Voltage =
Add the voltage of the LED and resistor together
Voltage total =

Deduct the voltage total of the led/resistor from the battery voltage
The total voltage of the led/resistor should equal the battery voltage (within a few millivolts) does it?
If not, give a brief explanation of why this may be


UT33A
UNI-T
3.223
V
SELECT
NPN
PNP
OFF
hFE
COM


UT33A
UNI-T
05.06
V
SELECT
NPN
PNP
OFF
hFE
COM


UNI-T
UT33A
0826
SELECT
NPN
PNP
OFF
hFE
COM


UNI-T
UT33A
0826
SELECT
NPN
PNP
hFE