Project # 276 (pg. 28) Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Build this circuit, draw the schematic, and illustrate the electron flow.

What is the purpose of using the LEDs in this circuit?

Project #102 (pg. 29)

Build this circuit, draw the schematic, and illustrate the electron flow.

Measure the current that is flowing through both LEDs>

D1=

D2=

Are the measurements the same? Why?

Why do you need (2) sets of batteries for this circuit to operate?

List one benefit of using LEDs instead of a regular bulb.

List one disadvantage of using LEDs instead of a regular bulb.

Section 3-3 (pg. 29)

Build the two mini circuits that have resistors in parallel and the other in series.

Draw the schematic and label electron flow. Measure the current and voltage drops in each circuit to compare the effect of resistors in these two different types of circuits.

Series:

Parallel:

Placing resistors in SERIES, causes the Total Resistance to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

What is the mathematical formula to determine this total resistance?

What is the total resistance of a circuit if you have **10 Ω, 25 Ω, and 100 Ω resistors wired in series?**

Placing resistors in PARALLEL causes the Total Resistance to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

What is the mathematical formula to determine this total resistance?

What is the total resistance of a circuit if you have these same resistors wired in Parallel?