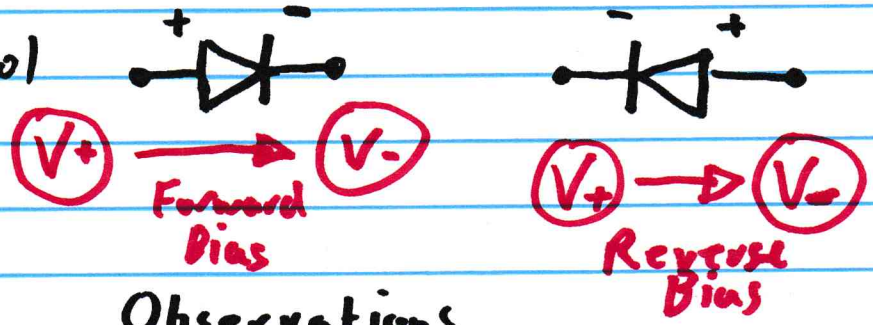
LED - Light Emitting Diode

Symbol 

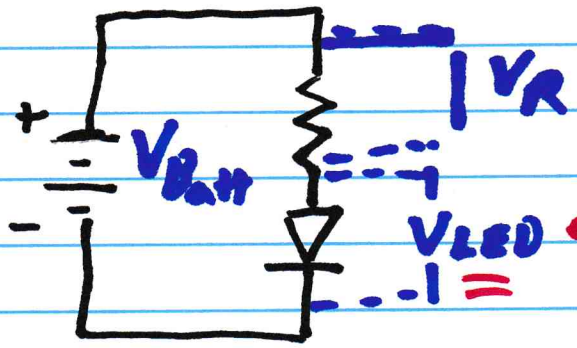
Observations

- During Reverse Bias $I \approx 0$
- During Forward Bias $V_{LED} \approx 1.5v$ for both voltages and resistances in either combination

Diodes

- Current is 'allowed' to flow in the 'arrow' in the diagram
- Relatively constant voltage drop
- LED emits more light as more current flows

LED - R series Calculations



Given V_{Batt}, R

← Characteristic of the LED can be looked up data sheet

$$I = \frac{V_R}{R}; \quad V_{BATT} = V_R + V_{LED}$$

$$V_R = V_{BATT} - V_{LED}$$

$$\boxed{I = \frac{V_{BATT} - V_{LED}}{R}}$$