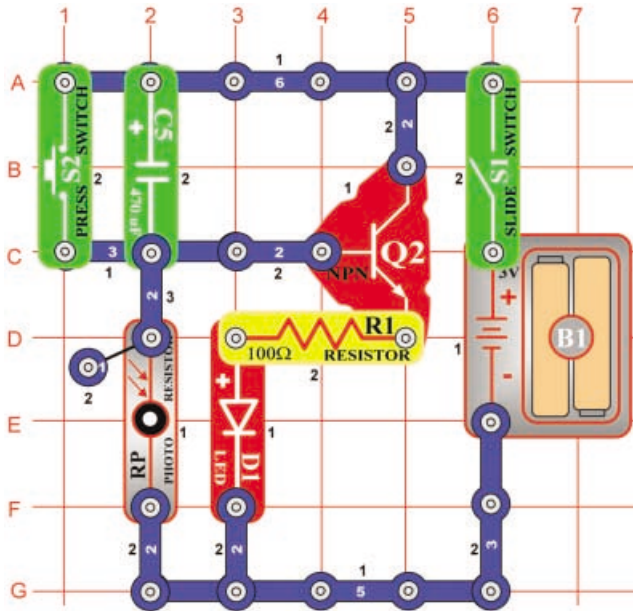


Project #A11 Auto-Off Night Light (II)

OBJECTIVE: To learn about one device that is used to delay actions in electronics.



Cover the photoresistor (RP) and turn on the slide switch (S1). The LED (D1) is bright, but it will very slowly get dimmer and dimmer as the 470μF capacitor (C5) charges up. If you turn the slide switch (S1) off and back on after the light goes out it will NOT come on again. Push the press switch (S2) to discharge the capacitor and reset the circuit.

If you uncover the photoresistor and to let light shine on it, then the LED will get dark quickly. The photoresistor has much lower resistance with light on it, and this lower resistance allows the capacitor to charge up faster.

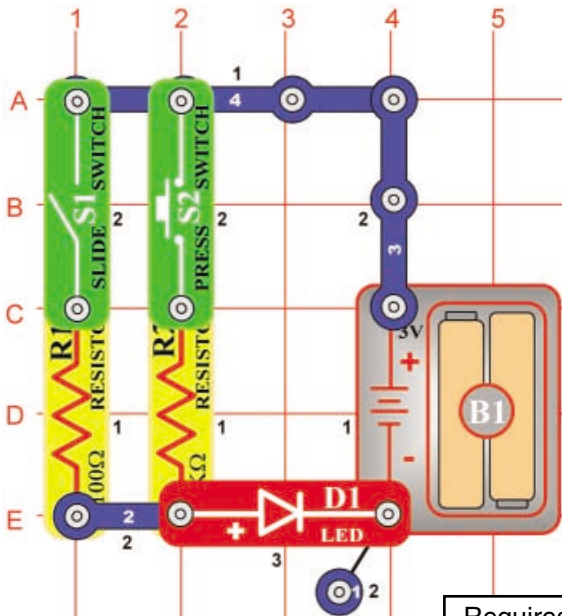
Requires SC-300 or larger parts set.

Project #A12 Parallel Resistors

OBJECTIVE: To learn about resistors.

Turn on either or both switches and compare the LED brightness.

This circuit has the 100Ω and 1KΩ resistors (R1 and R2) arranged in parallel. You can see that the smaller 100Ω resistor controls the brightness in this arrangement.



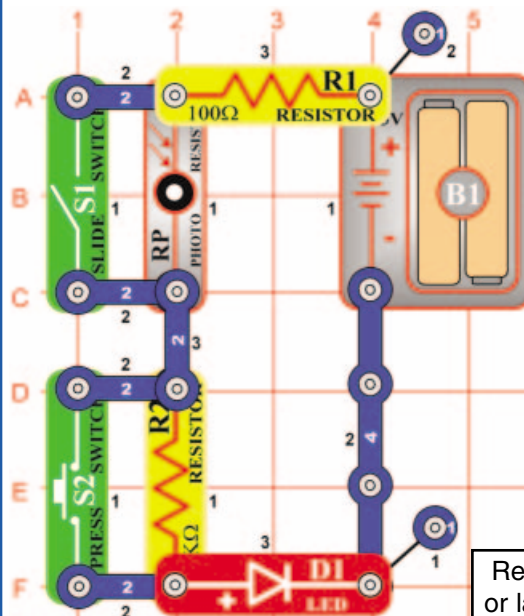
Requires SC-300 or larger parts set.

Project #A13 Series Resistors

OBJECTIVE: To learn about resistors.

Turn on either or both switches and compare the LED brightness.

This circuit has the 100Ω resistor (R1), the 1KΩ resistor (R2), and the photoresistor (RP) arranged in series. You can see that the larger photoresistor controls the brightness in this arrangement (the resistance of the photoresistor will be much higher than the others, unless the light is very bright).



Requires SC-300 or larger parts set.