

ADDING HOMEMADE SENSORS - LIGHT/DARK SENSORS

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On behalf of The World Association of Technology Teachers

W.A.T.T.



World Association of Technology Teachers

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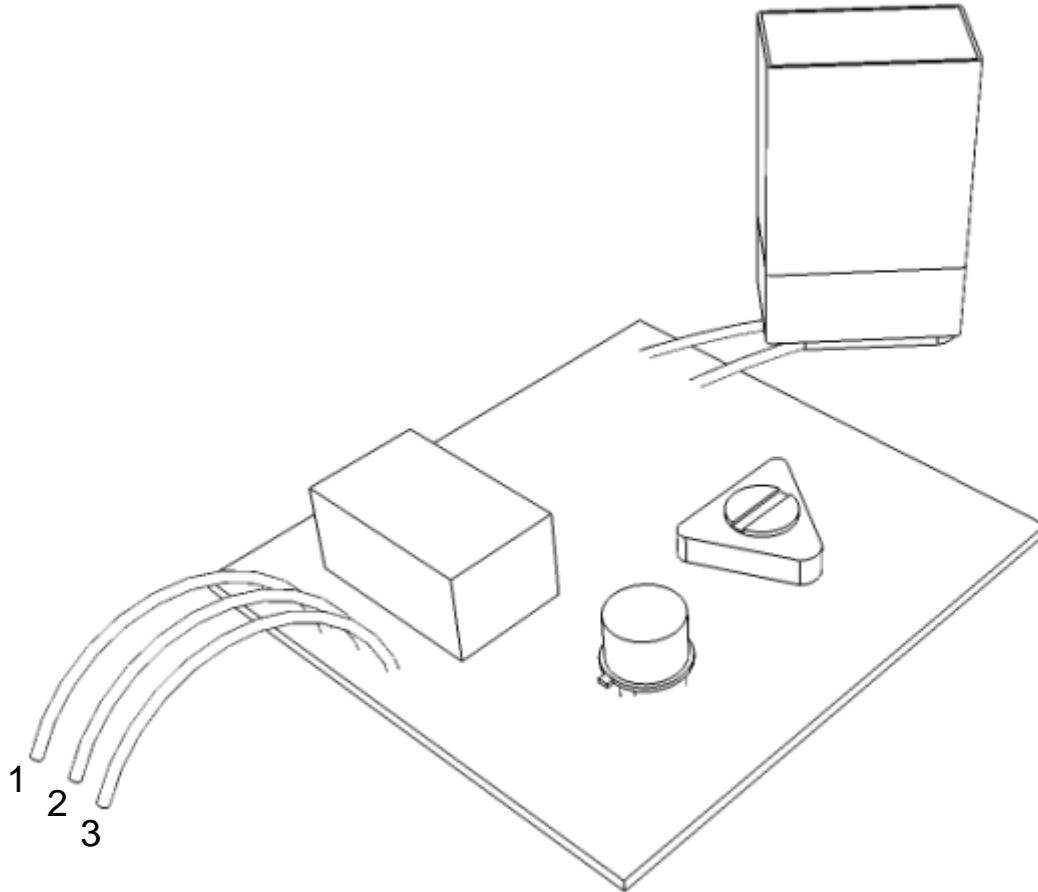
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1. The incomplete sketch shown below, is missing two important components. Add both missing components to the sketch.

2. Label all the components.



3. The relay is a very important component of the dark / light sensor. Complete the following sentences by adding the missing words / phrases.

WHEN THE LIGHT LEVEL INCREASES (E.G. _____):

The relay of the light/dark sensor _____, it acts as a normal switch, 'switching on'.

WHEN THE LIGHT LEVEL DECREASES (E.G. _____): The relay of the light/dark sensor _____, it acts as a normal switch, 'switching off'.

DARKNESS

ENERGISES

DAYLIGHT

DE-ENERGISES

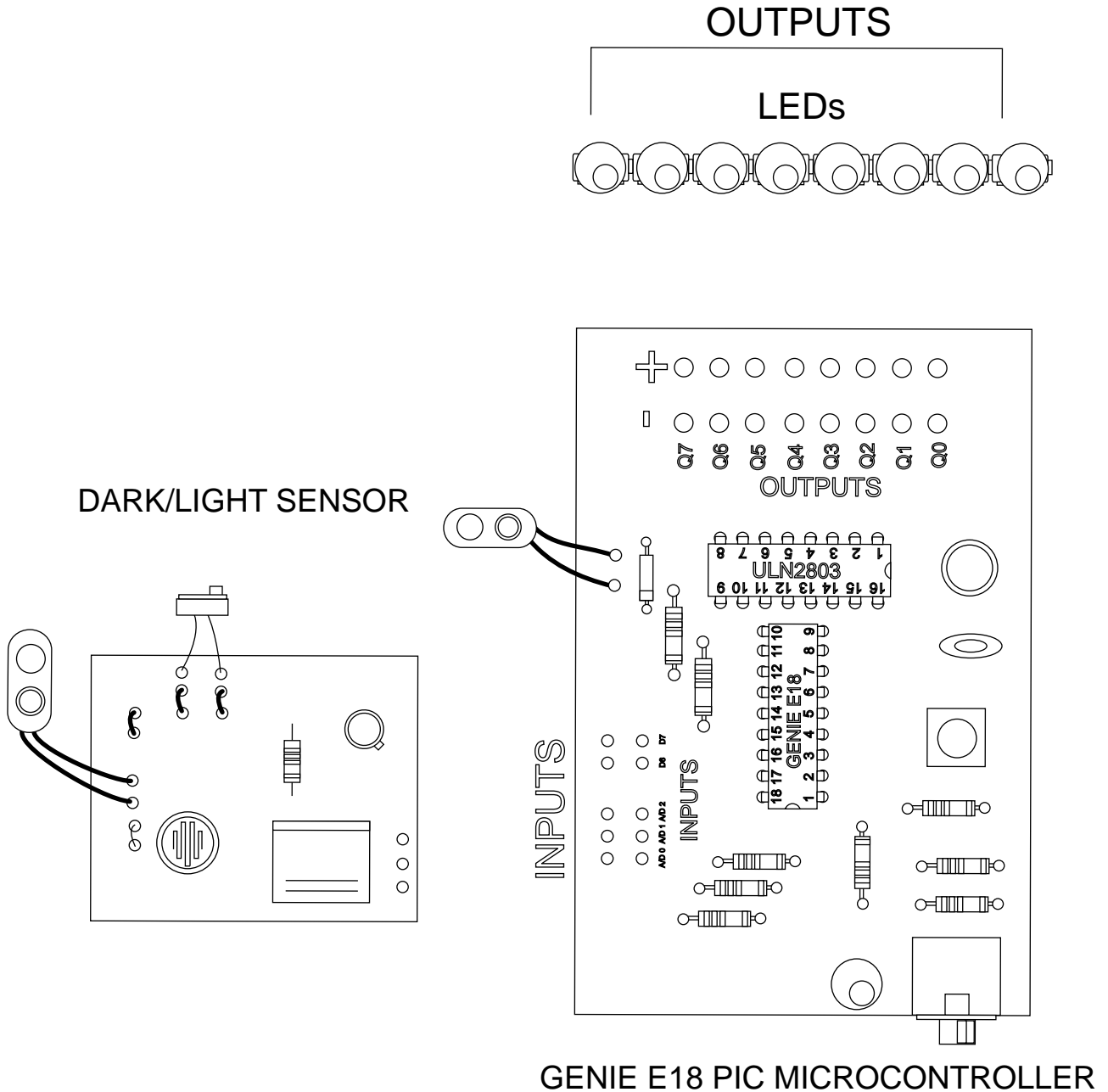
4. PIC Microcontrollers have many practical applications. How could a dark/light sensor, a PIC microcontroller and a number of lights, be used in a real life practical situation. Describe two possible practical applications.

PRACTICAL APPLICATION 1: _____

PRACTICAL APPLICATION 2: _____

5. The incomplete diagram of a dark / light sensor, a GENIE E18 PIC microcontroller and a number of LEDs, is shown below.
On the diagram, draw the wire connections required, to join the sensor to a set of inputs and to connect the LEDs to the outputs.

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6. What type of batteries are normally used to power the GENIE E18 PIC microcontroller ?

7. What is the supply voltage range, of the GENIE E18 PIC microcontroller?