

ADDING HOMEMADE SENSORS - TEMPERATURE SENSORS

V.Ryan © 2000 - 2010

On behalf of The World Association of Technology Teachers

W.A.T.T.



World Association of Technology Teachers

This exercise can be printed and used by teachers and students. It is recommended that you view the website (www.technologystudent.com) before attempting the design sheet .

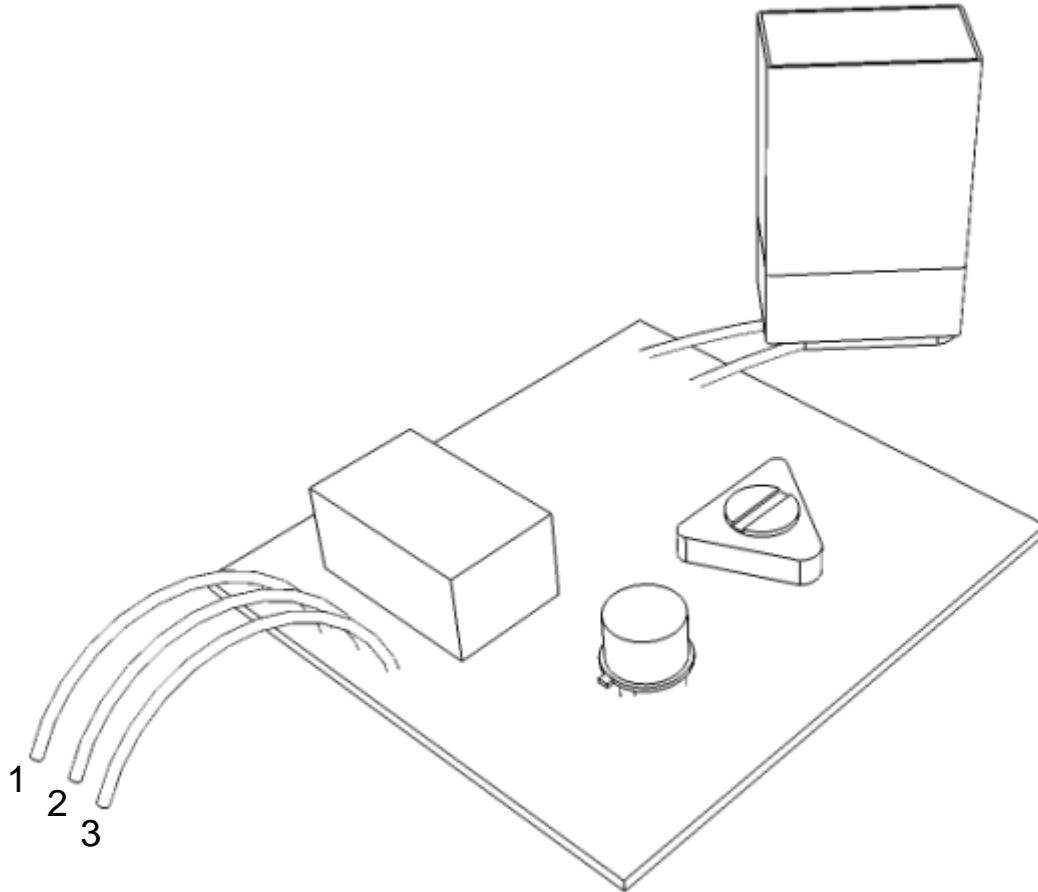
THESE MATERIALS CAN BE PRINTED AND USED BY TEACHERS AND STUDENTS.
THEY MUST NOT BE EDITED IN ANY WAY OR PLACED ON ANY OTHER MEDIA INCLUDING WEB SITES AND INTRANETS.
NOT FOR COMMERCIAL USE.
THIS WORK IS PROTECTED BY COPYRIGHT LAW.
IT IS ILLEGAL TO DISPLAY THIS WORK ON ANY WEBSITE/MEDIA STORAGE OTHER THAN www.technologystudent.com

ADDING HOMEMADE SENSORS - TEMPERATURE SENSORS

V.Ryan © 2010 World Association of Technology Teachers

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 temperature sensor. Complete the following sentences by adding the missing words / phrases.

WHEN THE TEMPERATURE RISES:

The _____ of the temperature sensor _____, it acts as a normal switch, 'switching on'.

WHEN THE TEMPERATURE DECREASES: The relay of the temperature sensor _____, it acts as a normal switch, '_____ '.

RELAY

ENERGISES

SWITCHING OFF

DE-ENERGISES

4. PIC Microcontrollers have many practical applications. How could a temperature sensor, a PIC microcontroller and a number of lights / LEDs , be used in a real life practical situation (one light/LED can be used). Describe two possible practical applications.

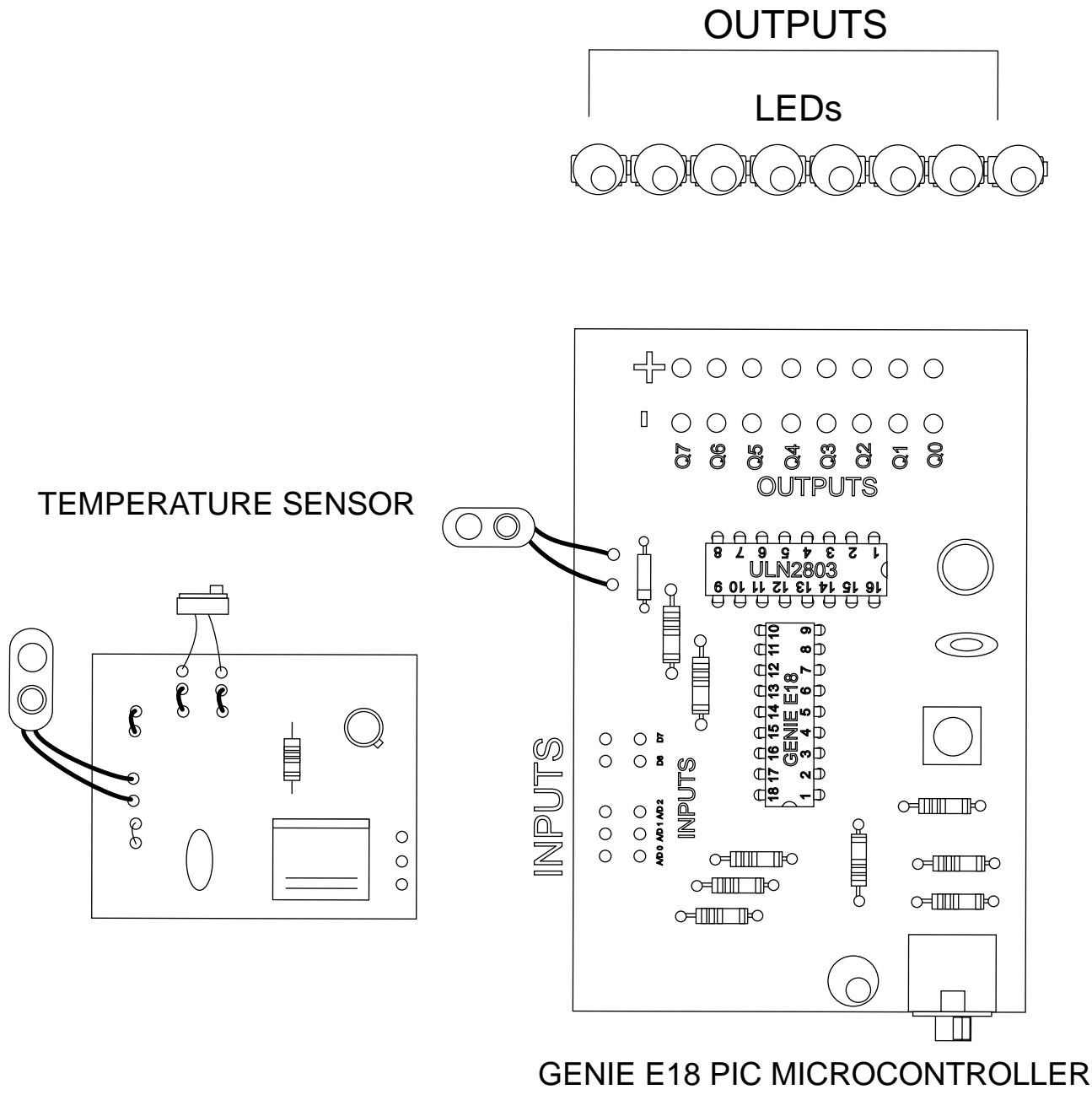
PRACTICAL APPLICATION 1: _____

PRACTICAL APPLICATION 2: _____

5. The incomplete diagram of a temperature 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.

V.Ryan © 2010 World Association of Technology Teachers



6. Name the component of a temperature that reacts to temperature change ?

7. What do you think is the role of the preset resistor, as part of the temperature sensor circuit?