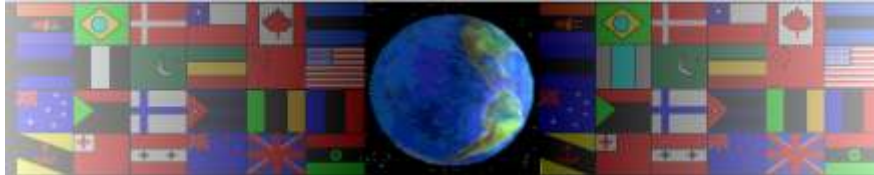


LIGHT / DARK SENSOR

V.Ryan © 2000 - 2008

On behalf of The World Association of Technology Teachers

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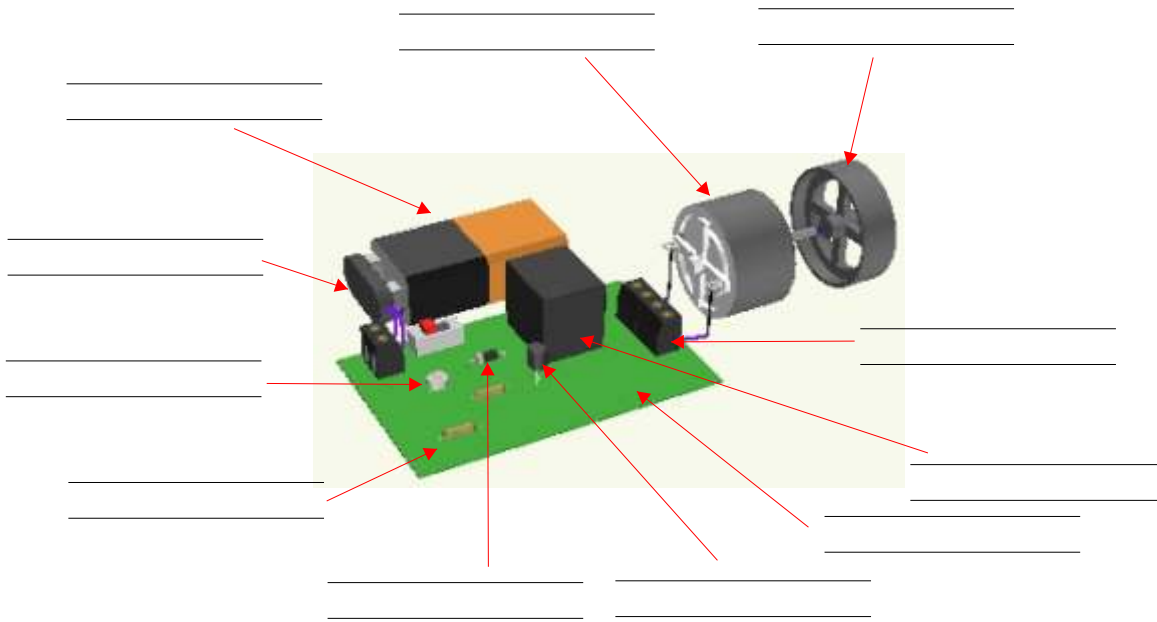
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LIGHT/DARK SENSOR QUESTION

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The sensor below is a light/dark sensor. This is part of an automatic animal feeder. As it becomes dark the sensor activates a relay that in turn turns on a motor, rotating a fly wheel. The fly wheel operates a mechanical system that releases food to a small animal, such as a hamster. Food is release during the night.

1. A list of component names are seen below the diagram. Write each of the component names in the correct place on the diagram.



SNAP
CONNECTOR
LDR

TRANSISTOR
RELAY
FLY WHEEL

PCB
BATTERY
RESISTOR

DIODE
MOTOR

2. Only one transistor is used in this circuit. Sometimes it is wise to include two transistors called a 'darlington pair'. Draw below a circuit diagram representing a darlington pair.

3. Why is it wise to use a darlington pair (two transistors) rather than a single transistor?
