

SYSTEMS AND CONTROL

YEAR 7

Night Light / Door Sign

Pupils are expected to make a high quality, working light using a range of tools and equipment.

Skills developed:

- Soldering a circuit
- Producing a net for the battery holder
- Using a strip heater safely and correctly to make the acrylic light holder and the battery holder
- Using a glue gun to assemble product

In order to improve their knowledge of Systems and Control / Electronics pupils also investigate:

- Soldering processes
- How electricity is controlled
- Resistor values

YEAR 8

Up Lighter

Pupils design their own acrylic display for an up lighter and are expected to manufacture a high quality, effective product which they then evaluate against the specification.

Skills developed:

- Use of PIC programming
- Flow charts
- Soldering and testing more complex circuits
- Vacuum forming
- Filing and drilling using hand / power tools
- Safe use of PVA and Dichloromethane

YEAR 9

Bubble blower

Product analysis / evaluation of available 'bubble blowers' including testing and a detailed examination of the mechanisms involved is expected to lead to the design of a pupil's own appealing, high quality and accurate product with an effective bubble blower control.

Skills developed:

- Product analysis
- Mechanism evaluation
- Further PIC programming
- Critical path analysis i.e. planning most suitable sequence of work
- Quality control
- System development