

Year group 9	Subject: LED Lamp
National Curriculum	Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]. Students have no prior learning of electrical systems, unless they may have completed a one-off lesson on soldering in Year 8.
Rationale	Group size is too large in Year 7&8 to organise independent soldering safely. In Year 9 students have sufficient knowledge and routine to be able to make design and development decisions to generate interesting ideas that may include net developments or laminating. They can choose materials and processes based on their learning in DT in years 7&8, and communicate these ideas using a variety of learned drawing styles.
Vocabulary:	Keywords - articulated, electrical, P.C.B., resistor, adaptations, millimetres, chamfer, orthographic, line weight, render, isometric
Cultural Capital:	Awareness of electrical and electronic products, and their capacity to control automatically through inputs and outputs, for example security systems.
Key assessments- name the assessments	Soft soldering safety points. Are marked by the teacher. Assessment marking grid. Thinking harder and retrieval questions about electrical, electronic and AI.
What do children know/ can do now	Students can soft solder electrical components safely to a PCB. They can problem solve issues that arise during the development of their lamp. Students understand the difference between electrical and electronics, and systems diagrams that explain inputs and outputs.