

Topic: Electronics AUT 1		Duration: 12 lessons		Composite:
Key vocabulary:	Core knowledge Components	Powerful knowledge components crucial to commit to long term memory		Links to previous and future topics
Solder, Tinning Soldering iron Stand, Flux Solder sucker Ventilation Extraction Trip Hazard Resistor LED (Light emitting Diode) Colour Code Tolerance Maximum, Minimum Continuity, Polarity Ohms Law (resistance (ohms), current(amperes), voltage(volts). Conductor. Track, pad. CAD Simulation, UV sensitive, Photo resist, Etching, wire wool, UV light box, pcb tank	<ul style="list-style-type: none"> • What are the safety rules when soldering? • What are the tools used when soldering? • What do LED's battery looms, resistors, capacitors, integrated circuit look like?. • How can you tell the polarity on a battery loom, a led and a capacitor?. • How is a multi-meter connected to read resistance, continuity, current and voltage? • What is a short circuit? what is a broken track? What is a dry joint? • What are the rules when drawing a circuit diagram? • What does Ohms law help you calculate?. <p>How are pcb boards manufactured (including use of CAD, UV PCB light box and a pcb tank)?</p>	<ul style="list-style-type: none"> • Why are symbols used on drawings? (know the symbols) • What is a data sheet? Why do electronic components have them? • How do you read a resistor colour code? How do you work out tolerance? • Which is +, red or black? • How do you know which is the + side of an led (component and symbol)? • Name 5 safety rules when soldering? • What is tinning? • What is flux? • What is a track on a circuit board? What is a pad on a circuit board? • What does a good solder joint look like? • If solder is not sticking to a leg or pad, what was wrong when you were soldering? • What are the steps when soldering? • What is a 'continuity' test? • What is the equation, called Ohms Law? • How does a magic triangle help you work out Resistance, current and voltage? • What units are used to measure Resistance, Current, Voltage? • What material properties are important when producing pcb's? • What materials properties are important when producing pcb casing's? 		Year 7 and 9 use of key words to name materials and describe properties of materials Year 8 introduction to soldering and basic components.
Impressive reading	Impressive speaking	Impressive writing	Resilience	Employability via:
Reading and understanding technical documentation (data sheets).	Taking part in class discussions. Use of appropriate technical language	Responses to extended exam questions	Being able to make confident choices when choosing tools and equipment. Find and correct own mistakes and problem solve	Independent time management. Independent decision making and problem solving Using key skills used by engineers.
SEND				
Key Vocabulary introduced using precision teaching prior to new topic.				
<ul style="list-style-type: none"> • Linked to prior knowledge from year 7. 8 and 9 to aid independence. Repeating of keywords. • Additional curriculum time allocated to those authorised, to support processing speed. • Project chosen so that knowledge and skills can be used at apprenticeship or engineering interviews, work-related to support the pathway into adulthood • Project chosen to support cross curricular links maths and science, supporting non-verbal reasoning • Technology: software (word, powerpoint) used to support accessibility • Skills ordered logically and as individual tasks to support accessibility. 				

