



TERM 2 JAN – APR	Week 1-6 Unit 2 NEA			Unit 3 Exam Theory	Week 7-12 Unit 3 Exam preparation Solving Engineering Products			
LESSONS TOPIC QUESTION(S)	Ideas modelling Students to recreate their chosen idea/ideas as a model to test its viability Designing with CAD Students to create their chosen design as 3D CAD model Presented as an isometric and orthographic drawing	Planning production for a 3 rd party	Numeracy in engineering Students to work out relevant numeracy related to their designs – material, volume, sizes, costings of materials	Week 2 Technical drawing Week 4&6 Numeracy in engineering	Advancements in electronics and their application in engineering design.	The impact of the development in electronics and how they have impacted on engineering products.	Hand tools identification revision Students to complete small practical tasks related to tools and equipment	Materials and properties revision
Knowledge & Skills development	<ul style="list-style-type: none"> Mixed media communication of ideas Technical drawing Numeracy – area, volume, average The application of electronics in engineering design 							
Assessment / Feedback Opportunities	Formative assessment – verbal, Q&A NEA – general whole class feedback Summative assessment – Teacher based judgment on NEA progress			Summative assessment – Practical outcome, exam style questions	Formative assessment – verbal, Q&A Summative assessment – Practical outcome, exam style questions			
Key Vocabulary	Mild steel, aluminium, ferrous, non-ferrous, wastage, joining, semi-permanent, permanent, temporary, tolerance, orthographic, isometric, British Standards, assembly, disassembly, component, mechanical, aesthetic, destructive, non-destructive, function, analysis, sequence, contingency, stock sizes, drilling speed, RPM, tapping drill sizes, hidden detail, cross section, area, volume, diameter, radius							
Literacy/Reading opportunities	Extended writing – manufacturing plans, evaluations Following Engineering design briefs and plans							
Cross curricular themes	Maths – diameter, radius, dimensions, area, volume, average English - extended writing ICT – using computers and software							

Personal Development (including British Values, RSE, Citizenship)	During this term students will have to show respect to one another during class discussions on the development of engineering in society.
Careers Opportunities	Engineer, draftsman, CAD designer, CAD technician, Testing and evaluation engineer, User researcher, Product research analyst, Industrial designer, Graphic designer