

STEAM KS4 Engineering unit 4b Overview – Completion date:

You will:

Complete the NEA coursework following on from your initial analysis and design work in year 10.

This coursework is worth 40% of your final grade.

Submission deadline February half term

Use CAD to design the parts of your product

Produce a production plan for your product

Design and explain the systems used in your product

Manufacture and use quality control to produce a quality product

Test and evaluate a completed product

Lesson Overview 1. CAD to produce parts 2. CAD to assemble parts 3. CAD drawings and files to produce parts 4. Systems diagrams and TinkerCAD 5. Production planning 6. Manufacture parts 7. Assemble 8. Test and Evaluate	Key Words • Tolerance • Quality control • Input • Output • Process • Electronic • Mechanical • CNC • Repeatability • Specification
Showbie information to support this unit: Youtube Solidworks tutorials Systems diagrams examples Production plan examples AQA Markscheme	Cross curricular Maths and science for dimensions, testing, material choices and properties, tolerance, measuring and quality control, 3D modelling and understanding of shape /angles /volume.

	Complete	Teacher assessment
CAD parts modelled		
CAD assembly		
Exploded view		
CAD drawings		
CNC files (2D design and cura)		
Systems diagram		
Coding		
Production plan		
Parts manufacture		
Assembly		
Testing		
Evaluation		

Teacher assessment (1 = poor – 5 = excellent)