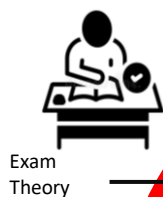


# Resistant Materials Learning Journey

Prepares you for further study or roles in:

Engineering, Furniture Design, Architecture, Construction, Product Design, Set Design, Building, Fashion Design, Manufacturing, Computer Game Design



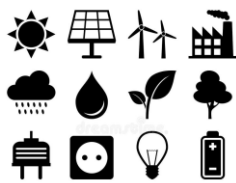
Exam Theory

NEA Coursework

Designing Principles, Making Principles



Materials & their working properties

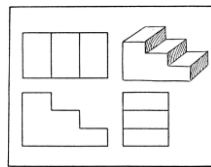


Energy, materials, systems & devices.

TECHNOLOGY REVOLUTION



New & Emerging Technologies

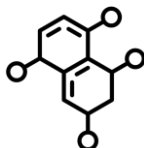
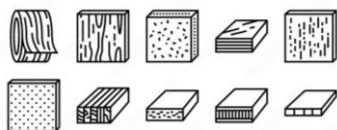


Advanced Drawing skills: Engineering Drawings, 1<sup>st</sup> & 3 angle projection

YEAR 11

Begin Non Examined Assessment Coursework

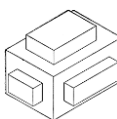
Knowledge- Theory: Paper & Boards. Timber based Materials. Metal based materials. Polymers. Textile based Materials



Advanced Practical skills: Widget made with precision- using Wood, Metal & Plastic from an Orthographic Drawing.

Application of the Design Process/ skills learnt at KS3

Skills- Graphic Techniques: Isometric/ Oblique, 1 point & 2 point perspective drawings.

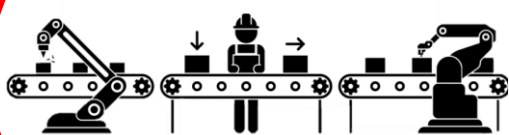


Clock Project  
MOCK NEA

YEAR 10

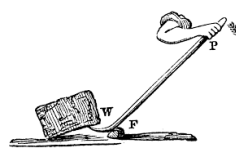
Multi Jointed Photo Frame

End of unit test

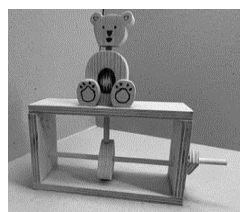


Skills- Advanced Practical skills: Drawing and making of four different wood joints: Mitre, Half Lap, Dowelled Butt and Bridle Joint. Including decorative techniques such as Pyrography

Knowledge- Production types: Mass, Batch, One- off & Continuous production Knowledge- Explore the use of CAMS used in industry to create automated products



Knowledge- Introduction to Cams and Levers with links to Engineering & product production processes



Automata Toy

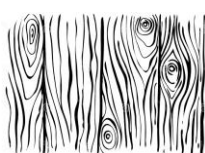
Skills- Advanced Practical skills: selecting and using appropriate Hand & Machine tools independently & with confidence to shape, form, construct & finish component parts to a high quality and standard



Research skills- Creation of products with a user/ client/ target market in mind (in readiness for GCSE option)



Skills- Graphic Techniques: 3D drawings, plastic and wood grain shading techniques



Skills- Advanced CAD skills using Tech Soft 2D Design Tools & the Laser cutter to create cam parts



Development of the Design Process

YEAR 9

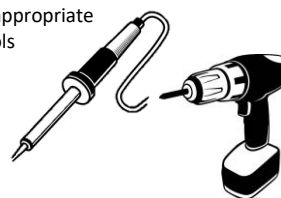
Skills- CAD/ CAM using Tech Soft 2D Design Tools & the Laser cutter



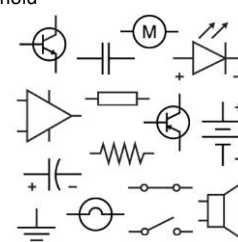
Knowledge- The need to source renewable energy Depletion of fossil fuels, rising energy costs, higher demands



Skills- Developed practical skills: selecting and using appropriate Hand & Machine tools independently



Threshold Test



Development of Health & Safety in the workshop & Industry

Knowledge- of materials available including Electronic components

Electronic Phone Holder



Knowledge- Environmental Impact: Plastics in the ocean



Knowledge- Current Environmental issues, Pollution, Global warming



End of unit test

Threshold Test



Recap Health & Safety in the workshop and Expectations

YEAR 8

Hand and Machine skills

Skill: Introduction to Basic Practical Skills



Knowledge- Sources of Wood & Plastics



Introduction to Health & Safety in the workshop



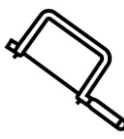
Building on the use of Hand & Machine tools.

Baseline Test

Sustainable Garden Wildlife Project



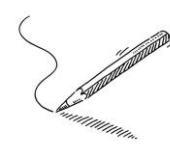
Knowledge- Responsibly resource materials FSC & Sustainability- 6R's



Introduction to Basic Hand & Machine tools.



Introduction to the Design Process



YEAR 7

welcome



What we learn and when we learn it!