THE ANGMERING SCHOOL

# D&T Engineering vcert Journey

## Years 7-9 follow the same pathway for all DT subjects

?

Explore appropriate materials to use | Select materials for use | Create bill of materials list | Health and safety plan manufacture | Fabrication of parts | Tool skills and safety assessed | Joining/fastening and adhesive skills assessed | Accuracy of product compared to drawing

End of Y11 Project Finish (60%)

### Y11 C/W Drawing and Planning

### Y11 C/W Project Making and Recording

Scientific tests on materials to justify suitability | Create a production plan | Creation of billets | Recording of skills and processes in a diary (with photos) | Machine skills and safety assessed | Use of mechanisms / electronics assessed | Final evaluation and possible modifications presented

Complete orthographic drawings in CAD

Complete isometric drawings in CAD

Complete 3rd angle orthographic drawings

Sketch design solution ideas

Receive brief for engineering problem from exam board

All materials CNC training

Plastics Tools Skills

Woodwork Tool Skills

YEAR 11

### Y11Course work project (60%) Y10 + Y11 practical project

Present ideas in isometric and exploded isometric

Present designs in 2 point perspective

Mind Map solutions

All materials Machining training

Metal Work tool Skills

Complete all CAD Plans for building

Start Practical work using machines

Engineering disciplines | Health and safety legislation | Engineering Equations and mathematics | Engineering Drawings (CAD) | Properties and Characteristics of Materials | Practice mocks for Y10 Exam | Start Designs for Lamp project

### Topics for Y10 Exam (40% of final grade)

Time for Exams

Application of SI Units of Measurement | Engineering Drawings (hand) | Drawing to British standard conventions (BS 8888) | Learning to use, tools, equipment and machines. | **Sit final** Y10 Exam (only exam), **40% of final course grade.**

Engineering

YEAR 10

Modelling tools & machinery | Packaging/CAD Printing | Product Analysis | Complex Isometric | Wood & Plastic tool skills | CAD/CAM | Design ideas & development | Electronics/ circuit making

### Graphics Mobile phone

Philppe Starck | Sustainability | Styrofoam Prototypes | Design development

### Spinning Top

CAD/CAM | Complex Perspective | 3rd angle orthographic

### Clock

Designer Research | Wood tool & machine skills

### Night Light

Soldering

The DT Curriculum splits into 3 pathways in year 10. Engineering, 3D Design Graphics focus & 3D design Product Focus

YEAR 9

Levers & classes | Linkages | Types of motion | Product Analysis | Sketches/ 3D Drawing | Material properties | 2pt perspective development | Basic orthographic | flowcharts | Ethical impact

YEAR 8

### Mechanisms Linkage toy

Modelling/ simulation | Designing | Evaluating

### Candle holder

Equipment and Safety | Design/ Evaluate | Making/ Finishing

### Technical Drawing

Structured isometric | Integrating shapes

### Lego Computer control

Programing | Designing & Making robots

Structures

Types of structure | Triangulation | forces | Bridges | MTA kits

Developing design skills | Sewing/stitches | Use of workshop tools & machines | Joining materials | Rendering | 1 & 2 point perspective | oblique | Isometric

YEAR 7

### Textiles . pencil case

Working with felt | Materials properties (textiles)

### Workshop safety . boat project

Marking out/measuring | Materials properties (timber) | Health & safety

### Drawing & CAD. Acrylic maze

Properties of polymers. filing | 2Ddesign