



# KS3 D&T CURRICULUM MAP

**Assessment: exploded drawing - final design - mark scheme – rubric; End of Key stage 3 summative test**

## Rotation 2: Design Communication

- apply sketching and drawing skills to communicate their design ideas
- know how to accurately lay out drawings of work in different styles
- evaluate the different stages of the design communication process
- construct graphically complex curves
- construct an exploded view showing connected centre lines and correct technical standards - ie dot dash for centre lines

**YEAR 10**

**Assessment: Mary Quant research; Textiles core - Google Forms assessment; Initial design ideas; Testing Soldering EYE Assessment**

## Rotation 1: Mechanical Toy

- understand how and when to use mechanical advantage tools
- create finishes using mechanical advantage tools
- make considered evaluations of own work in order to practice and improve

**YEAR 9**

## Rotation 2: Retro Lamp

- understand the iterative design process, the need to reflect, evaluate and change where necessary
- understand that design is ever evolving and be able to give clear examples
- make straightforward evaluations in response to their own work so that production work can be improved

**Assessment: Levers theory - Green pen exercise in class Exploded Drawing - final design - Mark scheme - rubric Levers and Cams assessment - Google Form - auto mark Evaluation questions - Mark scheme - Rubric End of Key stage 3 summative test**

## Rotation 1: Metal Bugs

- know how to cut straight lines with a rigid saw and file straight lines with flat files or half round as needed
- produce oblique drawings to accurately communicate intention
- know how to make simple evaluations
- know about the Arts and Crafts movement

**YEAR 8**

## Rotation 1: Metal Bugs

- This unit is in place for those groups which did not do it in Year 7 due to the rotation. This project introduces metals. Pupils design and make a metal bug using hand tools and pillar drill. Pupils are introduced to the design cycle and research Arts & Crafts movement, before producing oblique views of their designs.

- Know about the theory of metals, stoke forms and properties
- use technical drawing to communicate in 3D
- understand how to make judgements about their own productions
- make external curves, either cut with a hacksaw or using the nibbler and filed appropriately
- add internal curves, either cut with a hacksaw or using the nibbler and filed appropriately

**YEAR 7**

**Assessment: metals theory - self assessment; design work- initial and developed ideas - teacher assessed – rubric; final product teacher assessed rubric; end of unit test- theory and processes - peer marked and recorded on department mark-sheets**

### D&T SKILL

Computer Aided Design

### D&T SKILL

Research and Designing

### D&T SKILL

Planning Manufacturing

### D&T SKILL

Analysis and Evaluation



# KS4 D&T CURRICULUM MAP

## FURTHER STUDY

## CAREER PATHS

## SKILLS

A level D&T  
A level Engineering,  
Apprenticeship in  
Engineering

Civil Engineer, Aerospace,  
Electronics and  
Communication, Software  
Development

Critical analysis, interpretation,  
evaluation, problem-solving,  
mathematics, computer-aided  
design

Assessment: mini tests at end of topic; exam style  
questions - taken from past papers where possible  
Nov mock exam  
Feb mock exam

### Examination Revision and Preparation

### External Examination - Theory

- identify a range of industrial and commercial processes and be able to identify the key stages and their applications
- identify and naming the 6 Rs
- identify key designers and their most iconic works
- name and discuss two famous design brands
- name two or more design strategies
- identify and complete drawings in isometric, 2 pints perspective and orthographic projections
- understand and apply the terms anthropometric, ergonomic, specification

Assessment: CAD/CAM – Rubric;  
screenshot of sketch and the final  
2D image - Student is able to  
explain the process. Tap and die,  
checking the brazing is square,  
checking the countersink and bar  
are straight. Written assessment  
will be Section A style with some  
longer answer questions.

Assessment: section B C &  
D using NEA mark scheme;  
deformation processes  
theory assessment

### Rocking Spaceship

- understand why a finish is applied to different materials for different uses
- understand how finishes and treatments can impact the working properties of materials
- understand that most material groups can have an applied finish and that polymers is an exception

### Vase

- understand jigs, formers and templates and their applications
- know how to create their own jigs and templates to speed up manufacture and ensure repeatability

### Organic Jewellery

- creating a design specification
- generate design ideas
- use skills and techniques previously taught on new materials

### Project Production

- identify and investigate design possibilities
- know how to produce a design brief and specification
- apply knowledge in how to generate design ideas
- demonstrate how to developing design ideas
- synthesising knowledge in order to demonstrate the realising of design ideas
- manage own workflow in the workshops to be time efficient

YEAR  
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Assessment: theory 1 paper Section A style  
with some longer answer questions; brazing  
assessment and evaluation (NEA section F  
mark scheme). Theory Assessment 2 -  
materials and their working properties -  
Section B style longer answer questions.

Assessments: identifying and investigating  
design possibilities; producing a design brief  
and specification; generating design ideas;  
developing design ideas; realising design  
ideas; analysing and evaluating design ideas

### Retro Lamp

- Understand the differences between scales of production or production types
- explain advantages and disadvantages of each
- present design work as a lay plan with detailed annotations to communicated their design ideas

### Flat Pack

- develop skills in problem-solving using scale, tessellation and the applications of different materials
- understand technical principles such as forces and stresses: tension, compression, bending, torsion and shear

### Stock Forms

- know and understand physical properties such as absorbency, density, fusibility and electrical and thermal conductivity
- recognise developments made through the invention of new or improved processes e.g. graphene, metal foams and titanium

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Assessment: Popular  
culture research (Section A  
NEA/Section C Exam);  
Scales and types of  
production; Initial design  
ideas; Testing Soldering  
EYE Assessment

Assessment: timbers core  
(multiple choice)  
CAD task using 2D Design  
Processes - How is MDF  
made? Exam style (6 marks)  
independent as HWK

Assessment: 2 x 6 mark  
exam style question on  
paper straws - 1  
scaffolded in class and 1  
independent as HWK

### D&T SKILL

Computer Aided Design

### D&T SKILL

Research and Designing

### D&T SKILL

Planning  
Manufacturing

### D&T SKILL

Analysis and Evaluation