



Design and Technology Learning Journey



design and technology



- Learn how to **manufacture products safely** in the school workshop.
- Drawing skills** are very important in DT, learn a variety of 2d and 3d techniques
- Investigate** where materials come from and the impact they can have on the **environment**
- Build on drawing skills** to bring your ideas to life.
- Apply research skills to design for others using the **iterative design process**
- Develop your **subject knowledge** to help select appropriate materials
- Conduct meaningful **primary and secondary** research
- Analyse, test and evaluate** all aspects of design to demonstrate an understanding of a clients needs and wants.
- Independently design, plan and manufacture** a product for a client.

Core content and specialist knowledge: Revise and practice exam papers in preparation for your final **2 HOUR** exam.



Exam & Post 16 Destination

NEA COURSEWORK

REVISION: Specialist Technical Principles: **Timber Based Materials**

REVISION: All Materials inc. smart and modern materials

REVISION: Mechanical Devices

REVISION: People, Culture and Society

REVISION: New and Emerging Technology

REVISION: Energy Systems & Devices

REVISION: Ecological and Social Footprint

REVISION: Drawing & Communication Techniques

AO3: Evaluate & Test: Gain feedback throughout your project, and test your final product – have you met your brief?

AO2: Realise Design Ideas: Manufacture your product using skills and processes used throughout your DT journey.

AO2: Generate & Develop Design Ideas: Develop your sketches and communicate ideas. Developing them using modelling techniques

AO1: Specification & Brief: Clarify the needs and wants of the project writing your own brief & specification

AO1: Research & Investigation Follow on from your summer task to further understand the context. Client interviews, product, site analysis and designer research.

Initial Concept Sketches: What ideas do you have already? Can you visualize them?

AO1: Investigate the design possibilities: What is the design context? What research can you carry out to gather ideas?.

MOCKS
2 Hour exam

NEA COURSEWORK
35 HOURS TOTAL DURATION

YEAR 11

YEAR 10

Drawing & Communication:

- Technical drawings
- Isometric drawings
- Orthographic Projection
- Exploded parts
- 1 & 2 Point Perspective
- Rendering skills

Make: Learn 10 different skills to a variety of materials (mild steel, stainless steel, pine, plywood, acrylic, HIPS) to produce a Skillsbot

Materials: Properties and uses of

- Paper & Board
- Metals
- Timber
- Textiles
- Polymers
- Smart and modern
- Mechanical devices

Design and Make: Pewter casting key fob

Testing / Modelling: Will my product work? What can I do to improve it?

Energy Systems & Devices: Energy Generation and Storage Sustainability and Environment Carbon footprint

Design and Make: Cafe table decoration

Work of Others ALESSI dyson

THE SKILLS BOT

Technical Knowledge

THESE ARE MY KEYS!

Designing Principles

SKETCH TO MAKE

YEAR 9

Introduction to sustainability: Investigate the 6 R's

Re-Think, Refuse, Repair, Reuse, Recycle, Reduce

Materials: Polymers Classification. What is a polymer?

Make: Shaping and joining a variety of materials to bring your design idea to life. Use a variety of hand tools and machines.

Design: Learn how to produce perspective drawings and add annotation to help manufacture your design.

User Centered Design: Learn how to design for others and complete primary and secondary research to help.

Work of Others Apple

Technical Knowledge

'WHAT A MESS!' STORAGE PROJECT Manufacturing skills

Drawing Skills

Design Process

Work of Others

YEAR 8

Scan for DT Careers

Design: Learn about product analysis and 'Iterative Design'

Design Process

Work of Others

Drawing Skills

THE QUIRKY LAMP Manufacturing Skills

Technical Knowledge

Sustainable Energy

Renewable energy: Solar, Hydro, Wind vs Coal, Oil and Gas

YEAR 7

Packaging: Create a package to transport your puzzle cube in the style of De Stijl or Memphis Milano.

Work of Others ALESSI

Technical Knowledge

PUZZLED BY 'SOMA' Manufacturing Skills

Drawing Skills

Health and Safety

Design Movements: Explore the design movements of De Stijl and Memphis Milano, looking at the work of Gerrit Rietveld and Ettore Sottsass.

Materials: Natural timbers classification. Where does timber come from?

Make: Can you make an accurate product using machines and tools independently?

Design: Learn about Isometric & Orthographic drawing techniques

Introduction to the workshop: Health and Safety