Key Stage 4 Learning Journey

Design and Technology

Learning Journey

NEA section D and E
Development of design ideas completed before moving into the planning and manufacturing of a proto-type product.
On-going evaluation as part of section F.

NEA section E into F
Completion of manufacturing before final evaluation based on testing by the candidate, target market and clients

Continuation of Design at A-Level, T-Level or apprenticeship.

Post-16

Autumn term assessments. Mock examinations based on full exam board papers.

Theory – Unit 7

Theory linked to making principles.

Theory – Unit 2

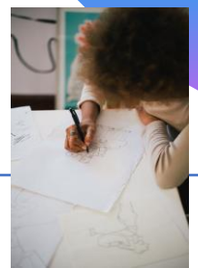
Energy materials, systems and devices

Theory – Unit 1, 3 and 5

Theory as part of NEA process including new and emerging technologies and materials.

Summer examination and end of course

YEAR 11



NEA section C into D
Generation of design ideas.
Students create solutions to their selected design topic. Use of research from section A and marked against candidate design brief and specification from section B. Selection of best idea/s for development.

Continuation of GCSE Design and Technology course

Revisit NEA goals and examination expectations. Weighting 50/50%

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Key Stage 4 Learning Journey

Design and Technology

Learning Journey

Researching a range of existing products and design styles.

GCSE links to Section A.

Design and make (DMA) project – Passive amplifiers. Links to GCSE DT courses including research, design, development and manufacturing using CAD/CAM.

Evaluation and end of unit assessment.

Prototype testing.

Links to GCSE and F.

Iterative design process covering research, design, development, and evaluation cycle.

Theory – Unit 3 and 7

Materials

Making principles

Design, development and manufacturing. Links to Section C, D and E

Theory – Unit 3 and 5

Materials

Design and development project – Controllers

Research, design and development. Links to **theory unit 4 & 6**(specialist technical and design principles).

Task analysis and product analysis of existing products.

Research of existing products, generating design ideas and development via modelling. GCSE links to section A, C and D of the NEA.

Start of NEA assessment

Section A - Research

Design and modelling of products using anthropometric data and ergonomics.. Links to GCSE sections A, C and D

Year 11

Continuation of two-year GCSE Design course.

NEA continued.

Section B

Section C

Summer assessment point.

Mock examinations of knowledge.

Baseline assessment including, sketching, presentation and health and safety.

YEAR 10

Introduction to GCSE Design and Technology course

Introduction to course overview and assessment structure.

Design and development project - Phone holders. GCSE DT courses including:- research, drawing styles, design and development (CAD and physical).

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Key Stage 3 Learning Journey

Design and Technology

Learning Journey

Researching a range of existing design styles, materials, and products. GCSE links to Section A.

Design and development including prototyping. Links to Section C and D

Design and make (DMA) project - In the style of X clocks. Links to GCSE DT courses including Research, Design and manufacturing using CAD/CAM.

Design and development project - furniture. Links to materials theory (timbers/paper and board).

Design and modelling of products in the style of famous designers. Links to GCSE sections A, C and D

Options: Student select pathway and subjects most suited to them.

Year 10

Evaluation of progress and end of unit assessment.

Manufacturing using hand-tools and machinery including CAM (laser cutter).

Revisiting CAD (2dDesign) to create design developments.

Task analysis and product analysis of existing products.

Manufacturing of quality outcomes. Links to section E

Evaluation and end of unit assessment.

Recording of manufacturing evidence and evaluation of final products. Links to GCSE section E and F.

Developing S&K of manufacturing, assembly and finishing processes of timbers.

Generating design ideas (plan drawings) and development tasks. GCSE links to section C and D of the NEA.

Baseline assessment including, sketching, presentation and health and safety.

YEAR 9

Introduction to Y9 D&T

Revisiting health and safety in the workshop and baseline of progress.

Revisiting C.A.D/C.A.M S&K. Use of 2D and the laser cutter to accurately mark out the product, before using hand tools to manufacture.

Design and development project - WordArt. Links to future GCSE DT courses including:- research, drawing styles, design and development (CAD and physical).

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Key Stage 3 Learning Journey

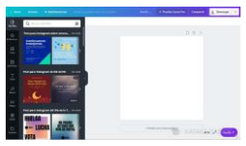
Design and Technology

Learning Journey

Ongoing - Exam theory techniques and command words.

Year 9

Design, develop of own brand and logo based on a design brief.



Use of graphics software to develop product branding.

Design and make (DMA) project lighting . Links to resistant materials (timbers/polymers) electronics and CAD/CAM.

Manufacturing of light housing and circuit.

Design and development project - Promotional materials. Links to graphics- branding and logos.

Evaluation of progress and end of unit assessment.

Evaluation and end of unit assessment.

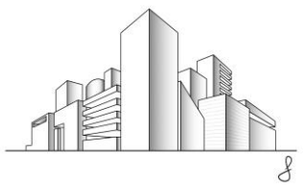
Research into branding and logo awareness.

Task analysis, timber joints, processes and finishes.

Revisiting CAD (2dDesign) to create light design.

Manufacturing using hand-tools and machinery including CAM (laser cutter).

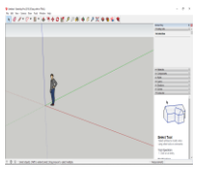
Generating design idea (plan drawings) and development tasks.



Baseline assessment including, sketching, presentation and health and safety.

YEAR 8

Physical models. Use of prior pop-up/mechanisums knowledge.



Introduction to C.A.D. Use of SketchUp for Schools to create interior and exterior building designs.

Design and development project Architecture. Links to research, drawing styles, design and development (CAD and physical).

Introduction to the Department
Revisit what design & technology is?
Links to future GCSE options, career paths and Industry.

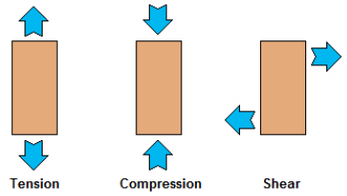
Potteries Educational Trust

Key Stage 3 Learning Journey

Design and Technology | Learning Journey

Ongoing - Exam theory knowledge and command words.

Year 8



Design, develop and make a final solution using knowledge of movement.

Evaluation and end of unit assessment.

Design and make (DMA) project Sustainability. Links to resistant materials (polymers), CAD/CAM.

Developing knowledge of resistant materials properties.

Evaluation of progress and end of unit assessment.

Design and make (DMA) project Pop up cards. Links to graphics- colour typography and logos knowledge.

Paper Engineering: Mechanisms used in pop up cards.

Task analysis, materials research of thermoforming plastics

Experimenting in CAD.

Manufacturing using hand-tools and machinery including CAD/CAM.

Evaluation and end of unit assessment.

Manufacturing diary to record practical progress.

Finishing products to a high quality.

Generating design ideas and development tasks.

Baseline assessment including, sketching, presentation and health and safety.

YEAR 7

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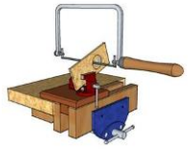
Manufacturing using hand tools and machinery.

Health and safety!



Design and make (DMA) project Keyrings. Links to resistant materials, design briefs, task analysis and mood boards.

Introduction to the Department
What is design & technology?
Links to future GCSE options, career paths and Industry.