



DT KS3 Year 7 Curriculum Map cover sheet

Subject: DT	Year Group 7	Key Stage 3
Links to prior learning KS3 DT builds upon students' primary school exposure to basic crafting and making. In Year 7, students are introduced to health and safety, basic tools, and materials. Emphasis is placed on problem-solving, iteration, and evaluating real-world examples.	Retrieval Practice Retrieval strategies are embedded throughout the curriculum through starter quizzes, practical recaps, and review activities. Visual prompts (e.g., material property flashcards), low-stakes questioning, and regular reference to both current and past projects help to reinforce memory. Key terminology and previously learned techniques are revisited within the context of new projects to support the cumulative development of knowledge. ☐ KS3 DT Retrieval Practice (RP) Questions ☐ KS3 RP DT Pictionary word games	Adaptive teaching strategies Lessons are designed to accommodate all learners by incorporating visual demonstrations, scaffolded worksheets, and varied learning outcomes. Support for students with SEND includes breaking instructions into manageable steps and providing templates to guide evaluations and tasks. High-achieving students are challenged with extra design constraints or encouraged to experiment with different materials and techniques. Inclusive learning is further promoted through peer critique and mixed-ability pairings. PDF Annotation-Sentence-Starters.pdf PDF Connectives Mat.pdf PDF KS3-Access-FM-cards.pdf

Literacy Vocabulary is explicitly taught through the use of glossaries. Pupils complete short written tasks, such as design justifications and evaluations. They also read design briefs and exemplar work to deepen their understanding of audience and purpose. Sentence starters and writing frames are provided to support extended written responses.  Annotation-Sentence-Starters.pdf  Connectives Mat.pdf  DT Word Mat	Oracy Students develop their spoken communication through group critiques, verbal explanations of their design processes, and collaborative project planning. Peer feedback is encouraged through the use of guided prompts. Regular class discussions centred on real-world design challenges help build confidence in using technical vocabulary.  EOP reflection's GREEN PEN	Numeracy Numeracy is embedded throughout measurement, scaling, ratio, and the use of measurements in CAD tasks. Pupils calculate material quantities, analyse test data, and interpret design specifications. Projects such as the bird box and paper gripper require the application of precise measurements and accuracy.  Numeracy Mat.pdf  Maths Skills for DT booklet.pdf
Careers across the Curriculum Key Stage 3 introduces pupils to the wide-ranging world of design and engineering. Careers are referenced during project introductions, highlighting roles such as product designers, architects, engineers, and graphic designers. In-class discussions help to make explicit links between classroom learning and real-life applications.  Careers across the Curriculum	Wider Curriculum opportunities Clubs such as the Lego Club, STEM Club, and Art Club encourage creativity beyond lessons. Pupils can participate in whole-school competitions or exhibitions. Some pupils assist in creating props or displays for school events.  Queensmead Extra Curricular Activities 24/...	Super Curriculum Students are encouraged to undertake personal projects at home, such as DIY or upcycling. They are directed to YouTube design tutorials (e.g., Sketch-a-Day, SolidWorks), design podcasts (e.g., 99% Invisible), and reading lists including books like <i>The Design of Everyday Things</i>. The use of instructables.com enables students to develop their technical skills beyond the classroom.  DT - Super Curriculum

Assessment and feedback

Assessment includes baseline tests, ongoing project evaluations, end-of-unit reflections, and skill checklists. Verbal and written feedback is given during and after projects. Students are taught how to reflect on feedback using green-pen responses and improve their design and making processes iteratively.

 [Design and Technology Department Feedback Policy](#)



DT KS3 Year 8 Curriculum Map cover sheet

Subject: DT	Year Group 8	Key Stage 3
Links to prior learning Year 8 DT builds on the foundational knowledge and practical experiences from Year 7. Students further develop their confidence with tools, materials, and workshop safety, and begin applying iterative design thinking to more complex and creative projects. Their understanding of material properties, basic electronics, CAD, and mechanisms continues to grow in preparation for Year 9.	Retrieval Practice Retrieval activities are embedded through lesson starters, practical recaps, and low-stakes quizzes. Students revisit prior learning through visual aids (e.g. flashcards, exploded diagrams), previous project analysis, and reapplication of techniques in new contexts. Key vocabulary is regularly reinforced to promote long-term memory retention. KS3 RP DT Pictionary word games KS3 DT Retrieval Practice (RP) Questions	Adaptive teaching strategies Differentiated outcomes and scaffolded resources are used throughout. Lessons include visual modelling, chunked instructions, and structured group work to support learners of all abilities. SEND students benefit from templates and clear task structures, while higher attainers are challenged to explore a wider range of materials and design constraints. Annotation-Sentence-Starters.pdf Connectives Mat.pdf KS3-Access-FM-cards.pdf
Literacy Students engage with design briefs and read exemplar evaluations to support understanding of purpose and audience. Writing is integrated through design justifications and evaluations using provided sentence starters, connectives mats, and key vocabulary glossaries.	Oracy Verbal communication is developed through peer critiques, design discussions, and group planning. Students practise using technical vocabulary during reviews and are encouraged to explain and justify their design choices EOP reflection's GREEN PEN .	Numeracy Maths is embedded through measurement, scaling, and data handling. Projects often involve applying accurate measurements in 2D and 3D design, using ratios when mixing or modelling materials, and interpreting test data to inform design improvements.

 Annotation-Sentence-Starters.pdf  Connectives Mat.pdf  DT Word Mat		 Numeracy Mat.pdf  Maths Skills for DT booklet.pdf
Careers across the Curriculum Students explore careers in design, engineering, architecture, and digital manufacturing. Links are made to real-world applications through design contexts, discussions, and optional participation in competitions and challenges. Emphasis is placed on understanding the relevance of DT to future pathways.  Careers across the Curriculum	Wider Curriculum opportunities Pupils are encouraged to participate in clubs such as STEM and Lego Club, and to contribute to whole-school design exhibitions and school events through prop or display construction.  Trips Audit 2025  Queensmead Extra Curricular Activities 24/...	Super Curriculum Independent learners are guided to explore design beyond the classroom via the DT Super curriculum  DT - Super Curriculum
Assessment and feedback (Detail how often feedback is given, how it is given, when etc) Assessment includes baseline tasks, mid-project reviews, final evaluations, and skill progression tracking. Students receive both verbal and written feedback throughout projects and respond using green-pen reflections. Self and peer assessments are used to develop critical evaluation skills.  Design and Technology Department Feedback Policy		



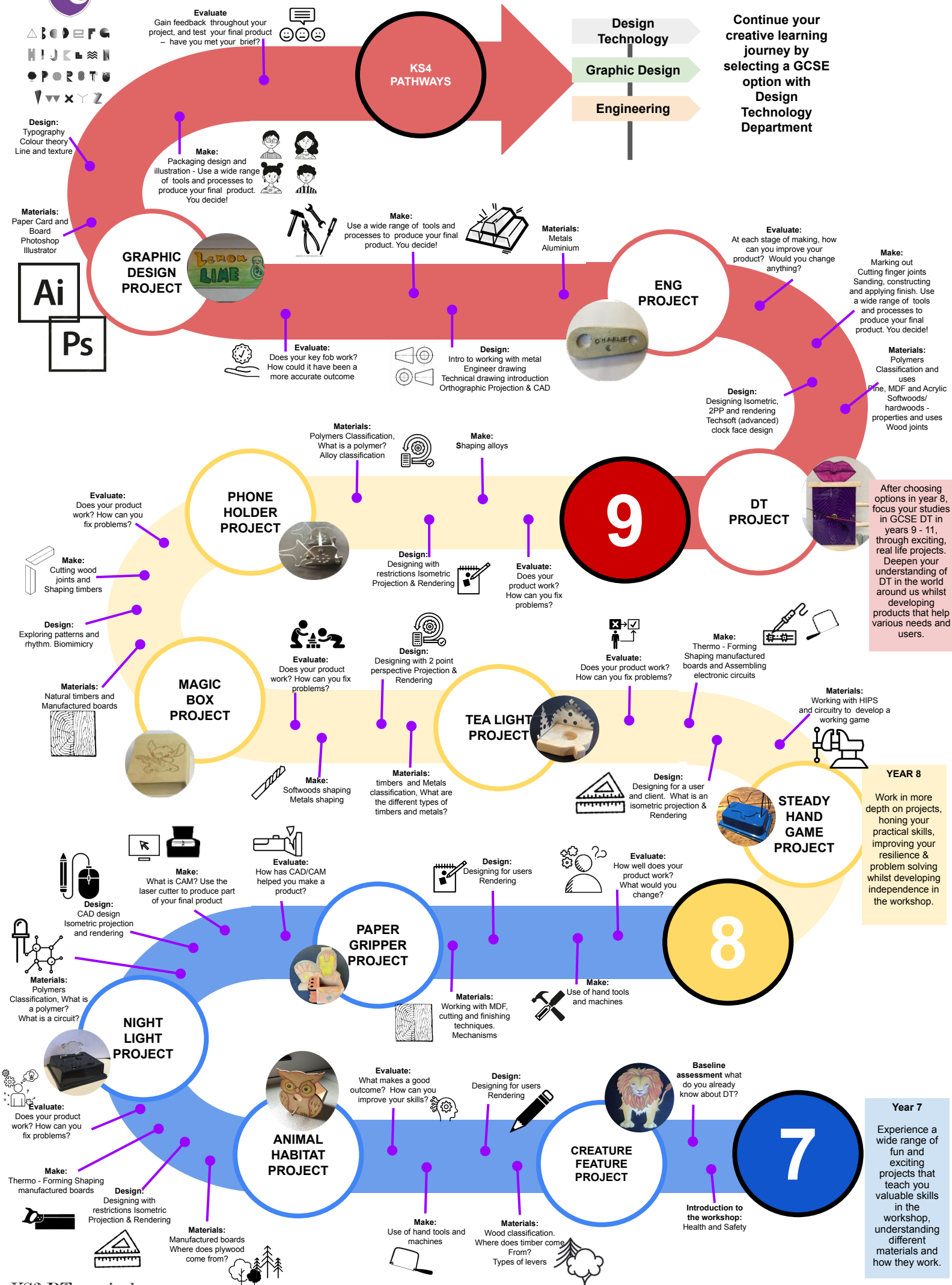
DT KS3 Year 9 Curriculum Map cover sheet

Subject: DT	Year Group 9	Key Stage 3
Links to prior learning KS3 DT builds upon students' primary school exposure to basic crafting and making. In Year 7, students are introduced to health and safety, basic tools, and materials. Year 8 deepens their practical understanding through more complex projects and design thinking. By Year 9, students will have consolidated their knowledge of polymers, timbers, circuits, CAD/CAM, and user-centred design, preparing them for the transition to GCSE. Emphasis is placed on problem-solving, iteration, and evaluating real-world examples.	Retrieval Practice Retrieval strategies are embedded throughout the curriculum using starter quizzes, practical recaps, and review activities. Visual prompts (e.g., material property flashcards), low-stakes questioning, and regular reference to previous projects help reinforce memory. Key terminology and prior techniques are revisited in new project contexts to encourage cumulative knowledge building. - KS3 RP DT Pictionary word games - KS3 DT Retrieval Practice (RP) Questions	Adaptive teaching strategies Lessons are structured to support all learners through visual demonstrations, scaffolded worksheets, and differentiated outcomes. SEND support includes chunked instructions and templates for evaluation. High prior attainers are given additional design constraints or encouraged to explore alternative materials or techniques. Peer critique and mixed-ability pairing foster inclusive learning environments. Annotation-Sentence-Starters.pdf Connectives Mat.pdf KS3-Access-FM-cards.pdf
Literacy Vocabulary is explicitly taught using glossaries. Students engage in short written tasks, including design justifications and evaluations. They also read design briefs and exemplar work to develop an understanding of the audience and purpose. Sentence starters and writing frames support	Oracy Students develop spoken communication through group critiques, verbal explanations of their design processes, and collaborative project planning. Peer feedback is encouraged using guided prompts. Regular class discussions around real-world design problems build	Numeracy Numeracy is interwoven through measurement, scaling, ratio, and use of coordinates in CAD tasks. Students calculate material quantities, analyse test data, and interpret design specifications. Projects such as the steady hand game and phone holder require application of

extended responses.  Annotation-Sentence-Starters.pdf  Connectives Mat.pdf  DT Word Mat	confidence in using technical vocabulary.  EOP reflection's GREEN PEN	measurements and accuracy.  Numeracy Mat.pdf  Maths Skills for DT booklet.pdf
Careers across the Curriculum KS3 introduces students to the breadth of the design and engineering world. Careers are referenced during project introductions, highlighting roles such as product designers, architects, engineers, and graphic designers. Trips to Design Museum, Design Ventura competition and in-class discussions help make explicit links between classroom learning and real-life applications.  Careers across the Curriculum	Wider Curriculum opportunities Clubs such as Lego Club, STEM Club, and Art Club support creativity outside lessons. Students can attend design-focused trips (e.g., Science Museum, Design Museum) and take part in whole-school competitions or exhibitions. Some students help create props or displays for school events.  Trips Audit 2025  Queensmead Extra Curricular Activities 24/...	Super Curriculum Students are encouraged to engage in personal projects at home, such as DIY or upcycling. They are signposted to YouTube design tutorials (e.g., Sketch-a-Day, SolidWorks), design podcasts (e.g., 99% Invisible), and reading lists featuring books like "The Design of Everyday Things." Use of instructables.com allows students to extend their technical skills beyond the classroom.  DT - Super Curriculum
Assessment and feedback Assessment includes baseline tests, ongoing project evaluations, end-of-unit reflections, and skill checklists. Verbal and written feedback is given during and after projects. Students are taught how to reflect on feedback using green-pen responses and improve their design and making processes iteratively.  Design and Technology Department Feedback Policy		



DESIGN TECHNOLOGY KEY STAGE 3 CURRICULUM MAP



KS4 DT Curriculum Map cover sheet

Subject: GCSE Design Technology	Year Group 10/11	Key Stage 4
Links to prior learning The KS4 DT curriculum builds directly on the foundation of practical and theoretical knowledge taught at KS3. Students develop skills learned in Year 9,, such as workshop safety, CAD/CAM use, and material properties. They deepen their understanding of user-centred design, problem-solving, and evaluation of real-world products. Prior exposure to manufacturing techniques and design thinking is extended into more complex and context-based NEA (Non-Exam Assessment) projects.	Retrieval Practice Retrieval strategies include low-stakes quizzes, starter recall tasks, use of knowledge organisers, and frequent reference to design principles across units. Interleaving key concepts like material properties, manufacturing processes, and design influences ensures long-term memory retention. Visual prompts and iterative questioning techniques reinforce connections across prior learning.  KS3 RP DT Pictionary word games  KS4 DT Retrieval Practice (RP) Qu...	Adaptive teaching strategies Differentiation is embedded through scaffolded writing frames, modelled design processes, and tiered vocabulary sheets. Visual aids and physical demonstrations support practical learners, while flexible grouping enables peer-to-peer modelling. SEND students benefit from chunked tasks, while stretch opportunities are available through challenging briefs and higher-order questioning.  Annotation-Sentence-Starters.pdf  Connectives Mat.pdf  KS3-Access-FM-cards.pdf
Literacy DT promotes technical vocabulary acquisition through glossaries and dual-coding strategies. Students are exposed to non-fiction texts, such as product specifications and design briefs, and are required to write evaluations, justifications, and design annotations. Reading of exemplar NEA folders and specification extracts supports exam readiness.  DT Word Mat  Connectives Mat.pdf  Exam structure connectives senten..  how to answer a 9 marker	Oracy Spoken language is developed through design critiques, group presentations of project ideas, client interviews, and peer feedback sessions. Students engage in structured discussions to justify their design decisions and present final outcomes using appropriate terminology.  Annotation-Sentence-Starters.pdf  EOP reflection's GREEN PEN	Numeracy Maths is naturally embedded in DT through dimensioning, measuring, scale drawing, cost calculations, material efficiency, tolerances, and interpreting technical data. Students also analyse quantitative data from testing and feedback, and apply it to iterate design improvements.  Maths Skills for DT booklet.pdf  Numeracy Mat.pdf

Careers across the Curriculum DT includes regular reference to real-world careers such as architecture, engineering, product design, and manufacturing. Opportunities include visits (e.g., Mini Plant Oxford, New Designers Exhibition), design competitions (e.g., Design Ventura), and virtual work experience through platforms like Springpod. Work placements and collaboration with external partners (e.g., Martin-Baker, Babcock, Maker Challenge) expose students to career pathways.  Careers across the Curriculum	Wider Curriculum opportunities Extracurricular opportunities include the Maker Challenge, Lego Club, STEM Club, school trips to the Design Museum and Science Museum, and collaborative projects with Art and Engineering. Students are encouraged to support school events by contributing their design skills. Cross-curricular links are made with most other subjects. Maths Scaling up from initial design ideas to the Card model and measuring radius, diameters, symmetry, and pattern, ergonomic studies, anthropometric data, normal distributions, Mean, mode and median, interpreting statistical data, graphics and charts, Trigonometry, Ratios, Areas, and volume Art and Graphic Design Rendering techniques, presentation skills, composition and line, Cultural values and morals English Critical thinking, annotations, Evaluative comments, and developing the use of adjectives Science Intro to material properties. Polymers/ hydrocarbons/ sustainable biopolymers. Metals and timbers, systems and control. Geography sustainability, the impact of raw materials extraction and materials processing, and the	Super Curriculum Students are guided to engage in personal projects, explore design-related podcasts (e.g., 99% Invisible), follow YouTube tutorials (e.g., SolidWorks), read design-focused books (e.g., The Design of Everyday Things), and enter national competitions. They are encouraged to explore instructables.com and attend events like the Big Bang Fair to broaden their understanding.  DT - Super Curriculum
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	circular economy. History - 20th Century design movements and their impact on socioeconomics Economincs Scales of production, supply and demand, technology push vs market pull, Legislation Law Legislation and consumer rights and protections, ISO and BSI standards, Health and Safety, Risk Assessment, Manual handling Operations, Control of Substances Hazard to Health. Religious Studies Moral, social and cultural factors around design. Textiles Origins of materials, manmade vs synthetics  Trips Audit 2025  Queensmead Extra Curricular Activities 24/...	
Assessment and feedback Assessment includes NEA checkpoints, mock exams, practical assessments, and weekly knowledge quizzes. Feedback is delivered through verbal critiques, peer and self-assessment, whole-class marking, and detailed commentary on design folders. Students must respond to feedback through green-pen reflection and iterative work improvement.  Design and Technology Department Feedback Policy		



KS5 PD Curriculum Map cover sheet

Subject: A Level Product Design	Year Group 12/13	Key Stage 5
Links to prior learning The KS5 Product Design curriculum builds directly on the foundation of practical and theoretical knowledge taught at KS3 and 4. Students develop skills learned in Year 10/11, such as workshop safety, CAD/CAM use, and material properties. They deepen their understanding of user-centred design, problem-solving, and evaluation of real-world products. Prior exposure to manufacturing techniques and design thinking is extended into more complex and context-based NEA (Non-Exam Assessment) projects.	Retrieval Practice Retrieval strategies include low-stakes quizzes, starter recall tasks, use of knowledge organisers, and frequent reference to design principles across units. Interleaving key concepts like material properties, manufacturing processes, and design influences ensures long-term memory retention. Visual prompts and iterative questioning techniques reinforce connections across prior learning.  KS3 RP DT Pictionary word games  KS4 DT Retrieval Practice (RP) Qu...  A-Level Product Design Roulette U...	Adaptive teaching strategies Differentiation is embedded through scaffolded writing frames, modelled design processes, and tiered vocabulary sheets. Visual aids and physical demonstrations support practical learners, while flexible grouping enables peer-to-peer modelling. SEND students benefit from chunked tasks, while stretch opportunities are available through challenging briefs and higher-order questioning.  Annotation-Sentence-Starters.pdf  Connectives Mat.pdf  KS3-Access-FM-cards.pdf
Literacy Product Design promotes technical vocabulary acquisition through glossaries and dual-coding strategies. Students are exposed to non-fiction texts, such as product specifications and design briefs, and are required to write evaluations, justifications, and design annotations. Reading of exemplar NEA folders and specification extracts supports exam readiness.	Oracy Spoken language is developed through design critiques, group presentations of project ideas, client interviews, and peer feedback sessions. Students engage in structured discussions to justify their design decisions and present final outcomes using appropriate terminology.  Annotation-Sentence-Starters.pdf  EOP reflection's GREEN PEN	Numeracy Maths is naturally embedded in Product Design through dimensioning, measuring, scale drawing, cost calculations, material efficiency, tolerances, and interpreting technical data. Students also analyse quantitative data from testing and feedback, and apply it to iterate design improvements.  Maths Skills for DT booklet.pdf

 DT Word Mat  Connectives Mat.pdf  Exam structure connectives senten..		 Numeracy Mat.pdf
Careers across the Curriculum Product Design refers to real-world careers such as architecture, engineering, product design, and manufacturing. Opportunities include visits (e.g., Mini Plant Oxford, New Designers Exhibition), design competitions (e.g., Design Ventura), and virtual work experience through platforms like Springpod. Work placements and collaboration with external partners (e.g., Martin-Baker, Babcock, Maker Challenge) expose students to career pathways.  Careers across the Curriculum	Wider Curriculum opportunities Extracurricular opportunities include the Maker Challenge, Lego Club, STEM Club, school trips to the Design Museum and Science Museum, and collaborative projects with Art and Engineering. Students are encouraged to support school events with design contributions.  Trips Audit 2025  Queensmead Extra Curricular Activities 24/...	Super Curriculum Students are guided to engage in personal projects, explore design-related podcasts (e.g., 99% Invisible), follow YouTube tutorials (e.g., SolidWorks), read design-focused books (e.g., The Design of Everyday Things), and enter national competitions. They are encouraged to explore instructables.com and attend events like the Big Bang Fair to broaden their understanding.  DT - Super Curriculum
Assessment and feedback Assessment includes NEA checkpoints, mock exams, practical assessments, and weekly knowledge quizzes. Feedback is delivered through verbal critiques, peer and self-assessment, whole-class marking, and detailed commentary on design folders. Students must respond to feedback through green-pen reflection and iterative work improvement.  Design and Technology Department Feedback Policy		



DESIGN TECHNOLOGY CURRICULUM MAP

Applying knowledge in:
Designing and
manufacturing prototypes
and products to given
situations and problems

EXAM REVISION

Analysis of: Materials,
components, process and
their selection and uses in
products and/or systems

AO2: Design and make
prototypes that are fit for
purpose.

AO1: Identify,
investigate and outline
design possibilities to
address needs and
wants.

AO4: Demonstrate
and apply knowledge
and understanding of:
• technical
principles
• designing and
making principles.

AO3: Analyse and evaluate: • design decisions and outcomes,
including for prototypes made by themselves and others • wider
issues in design and technology



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

FINAL GCSE EXAM

Core content and
specialist knowledge
Bridging work:
Getting ready for Post
16 learning

12



Contexts: What
can be learnt by
exploring wider
contexts

Product
Manufacture:
What needs to be
considered?

CHAIR PROJECT

Existing Products Why is it
important to understand
technological developments?

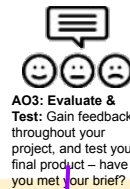


AO2: Generate & Develop Design
Ideas: Develop your sketches and
communicate ideas. Developing
them using modelling techniques

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

PRINCIPLES OF DESIGN AND TECHNOLOGY EXAM REVISION

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



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.

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



NEA COURSEWORK

After choosing
options in year
9, focus your
studies in
GCSE DT in
years 10 - 11,
through
exciting, real life
projects. Deepen your
understanding
of DT in the
world around us
whilst
developing
products that
help various
needs and
users.

EXPLORING GCSE NEA CONTEXTS



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

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



11

LOW VOLTAGE LIGHTING

Evaluate:
How has CAD/CAM
helped you make a
product?

Make:
What is CAM? Use the
laser cutter to produce
part of your final
product

Testing /
Modelling: Use
various testing and
modelling methods
to develop your
product

Design:
Designing with
restrictions Isometric
Projection &
Rendering

Materials: What
materials will be
appropriate for your
product? What
materials are
sustainable?
Polymers
Classification, What is
a polymer?



TEMP SENSOR

10

Work in more
depth on
projects, honing
your practical
skills, improving
your resilience
& problem
solving whilst
developing
independence
in the workshop.

KS4/5
DT

University

College

Apprenticeship

Workplace

Continue your life
long love of
learning and
personal
development

Investigate the stakeholders: Can you demonstrate
an understanding of the broader range of
stakeholders that have an interest in the design
problem and product solution?

Stakeholders: Do you know the needs
and wants of the primary users and
stakeholders? Can you identify a broad
and thorough range of product
requirements?

Investigate the design
possibilities: What is
the design context?
What areas require
further exploration?



Disassembly: What are
the benefits of product
disassembly?

Stakeholders:
What can be learnt
from a stakeholder
analysis?

Investigate
historical,
social, cultural,
environmental
and economic
influences on
design and
technology,
whilst enjoying
opportunities to
put learning into
practice by
producing
prototypes of
your choice. Students
will gain a real
understanding
of what it means
to be a
designer,
alongside the
knowledge and
skills sought by
higher
education and
employers.