



Technology

Design Technology students at Kings College will use an iterative design approach through a series of design and make projects. This aims to widen their understanding of a variety of materials, manufacturing processes and develop an awareness of the current social and environmental impacts during the product lifecycles.

This means;

- They will learn about types, sources and properties of a variety of materials.
- Via application, they will learn a range of processes used to manufacture products as scale models or working prototypes.
- They will apply investigation strategies to inform the development of their designs.
- Innovative design strategies will be adopted to ensure their product is fit for purpose.
- They will develop analytical and evaluative skills and be confident enough to self-reflect, which leads to further exploration of ideas.
- They will understand how to identify and fulfil client needs to ensure a successful and marketable product.

Key Stage 3 Design Technology Assessment

Assessment: students will be assessed on the quality of the work they have produced across the 4 key areas of Design Technology:- **Investigation, Designing, Manufacturing and Evaluation.**

GCSE (9-1) Design and Technology - Pearson Edexcel Assessment

5.2 AOs and skills targeted by component

Students must:		% in GCSE
AO1	Identify, investigate and outline design possibilities to address needs and wants.	10
AO2	Design and make prototypes that are fit for purpose.	30
AO3	Analyse and evaluate: <ul style="list-style-type: none"> • design decisions and outcomes, including for prototypes made by themselves and others • wider issues in design and technology 	20
AO4	Demonstrate and apply knowledge and understanding of: <ul style="list-style-type: none"> • technical principles • designing and making principles 	40
Total		100%

5.3 Breakdown of Assessment Objectives

Component	Assessment Objectives				Total for all Assessment Objectives
	AO1 %	AO2 %	AO3 %	AO4 %	
Component 1	0	0	10	40	50%
Component 2	10	30	10	0	50%
Total for GCSE	10%	30%	20%	40%	100%

GCSE (9-1) Design and Technology - Pearson Edexcel

	Component 1		Component 2 NEA	Assessment	Component 1		Component 2 NEA	Assessment
	Core Knowledge 40%	Specialism Knowledge 60%			Core Knowledge 40%	Specialism Knowledge 60%		
Module 1	New and Emerging Technologies, Material Categorisation and Properties of Materials	Timbers	Joint & Skill development Wooden Spoon	Exam Style Questions & Portfolio	Smart and Modern Materials	Timbers	Investigation & Design	Exam Style Questions & Portfolio
Module 2	Social, Cultural and Ecological Impacts	Timbers		Exam Style Questions & Portfolio	Revision and Exam Techniques	Timbers	Design Development Testing & Evaluate	PPE
Module 3	Construction Techniques, Product Analysis and the work of past and Present Designers	Timbers	Tea Candle Holder Design Investigate & Evaluate	Exam Style Questions & Portfolio	Quantity Production Methods, Performance Characteristics	Timbers	Making Testing & Evaluate	Exam Style Questions & Portfolio
Module 4	Electronic Systems, Forces and Stresses	Timbers		Exam Style Questions & Portfolio	Revision and Exam Techniques	Timbers	Making Testing & Evaluate	Practical Outcome & Portfolio
Module 5	Revision and Exam Techniques	Timbers		PPE & Portfolio	Revision and Exam Techniques	Timbers	Making Testing & Evaluate	GCSE
Module 6	PPE Reflection & DART	Timbers	Real NEA Begins Investigation	Portfolio				

Year 9 Overview			
	Component 1 Core Knowledge	Component 2 Skills Knowledge	Project
Module 1	1.12 The categorisation of the types, properties and structure of natural & manufactured timbers.	3 Make	Mug Tree
Module 2	1.10 The categorisation of the types, properties and structure of thermoforming and thermosetting polymers.	2 Design	Key fob, Frisbee
Module 3	1.8 The categorisation of the types, properties and structure of ferrous and non-ferrous metals	3. Make 4 Evaluate	Scrolled metal brackets and Timber shelf
Module 4	1.15 Investigate and analyse the work of	1 Investigate 2 Design	Scrolled metal brackets and Timber shelf
Module 5	1.5 The functions of mechanical devices used to produce different sorts of movements, including the changing of magnitude and direction of forces	3 Make 4 Evaluate	Automata project NEA Component 2
Module 6	<i>Move to Year 10 Courses</i> <i>Design Specification work of other designers</i>		Drawing ???

Yr 9 Design Technology: Mug Tree

Assessment Objectives- To work your way through the design process to **Investigate, Design, Manufacture** and **Evaluate** the success of your Mug Tree.

Modular Content	Why
Investigate the basic tools used in Computer Aided Design CAD using 2D Design.	To learn the basic skills required to be able to draw isometric and orthographic projections of your mug tree.
Research and generate design ideas.	To develop your ability to create different solutions to a design problem. To develop your ability to sketch and communicate your ideas graphically.
Develop a final idea and create a detailed full size version using CAD.	To learn how to take a hand sketch and draw this in CAD with accuracy so that Computer Aided Manufacturing techniques can be used to cut your key fob.
Learn how to mark out, cut, shape, join and finish pewter and acrylic.	To learn the basic hand and machine skills required within the DT workshops to enable you to manufacture your mug tree with a high level of precision and quality of finish.
Evaluate the success of your designs, your finished project and how you worked through the design process.	Learn how to reflect and present these reflections on how successful you think your designs are, how successful you think your project is, how successful you feel you worked through the design process and what you can do to improve in the 4 assessment areas – Investigation, Designing, Manufacturing and Evaluation.

Assessment: You will be assessed on the quality of the work you have produced across the 4 key areas of Design Technology:- **Investigation, Designing, Manufacturing and Evaluation.**

Homework: You will have homework to complete after each lesson. You will be asked to; 1) Investigate your design project, 2) Evaluate your Design ideas and 3) Answer some short questions on key knowledge in Timber Materials.

Design Technology: Pewter Pendant

Assessment Objectives- To work your way through the design process to **Investigate**, **Design**, **Manufacture** and **Evaluate** the success of your Pewter Pendant.

Modular Content	Why
Investigate the basic tools used in Computer Aided Design CAD using 2D Design.	To learn the basic skills required to be able to design a mould to cast the pewter pendant project.
Research and generate design ideas.	To develop your ability to create different solutions to a design problem. To develop your ability to sketch and communicate your ideas graphically.
Develop a final idea and create a detailed full size version using CAD.	To learn how to take a hand sketch and draw this in CAD with accuracy so that Computer Aided Manufacturing techniques can be used to cut your pewter pendant casting mould.
Learn how to mark out, cut, shape, join and finish pewter and acrylic.	To learn the basic hand and machine skills required within the DT workshops to enable you to manufacture your pewter pendant.
Evaluate the success of your designs, your finished project and how you worked through the design process.	Learn how to reflect and present these reflections on how successful you think your designs are, how successful you think your project is, how successful you feel you worked through the design process and what you can do to improve in the 4 assessment areas – Investigation, Designing, Manufacturing and Evaluation.

Assessment: You will be assessed on the quality of the work you have produced across the 4 key areas of Design Technology:- **Investigation, Designing, Manufacturing and Evaluation.**

Homework: You will have homework to complete after each lesson. You will be asked to; 1) Investigate your design project, 2) Evaluate your Design ideas and 3) Answer some short questions on key knowledge in Resistant Materials.