

Art, Design & Technology



KEMNAL HEARTS



KEMNAL MINDS

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Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Autumn 1 - Introduction to technology, health and safety using tools. Crazy car project - Making car using tools that have been introduced- With a plastics focus. Autumn 1/2 - Upcycling group project/presentation	Autumn 2/spring 1 -Food technology- Kitchen/personal hygiene, balanced diet and basic cooking skills and techniques.		Spring 2/summer 1 - Textiles Materials, decoration techniques, basic sewing techniques..	Design CAD/CAM based project STEAM rocket car challenge	

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Year 8	Autumn 1/2- Design and making - Mechanical toy, going through the design process, including CAD/CAM- With a wood focus.		Spring 1- Textiles - BATIK - Biomimicry design	Spring 2/summer 1 - Food technology- Nutrition, modifying recipes, food safety, cooking skills and techniques.	Summer 1/ 2 - Roller coaster STEAM group project.	
Year 9	Autumn 1/2- Design and make - Jewellery/ keyring - metals focus. Textiles element combined		Spring 1/2 - Main project combining knowledge/skills/techniques developed over ks3		Summer 1 /2- Food technology - Planning meals for specific event/client, dietary needs, Cooking skills and techniques. Summer 2- Rollercoaster STEAM group project	
Year 10	Autumn 1-Using different media Memphis based clock design- Developing presentation skills/intro and recap to CAD/CAM.		Autumn 2-Using metal and modelling ideas based project.	Start major project		
Year 11	Continue with major project Exam prep	Complete major project. Exam prep	Exam		Portfolio	

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Curriculum Enriching Opportunities

Curriculum Enriching Opportunities					
	Year 7	Year 8	Year 9	Year 10	Year 11
Suggested Reading	The little inventors handbook	The way things work	Incredible cross sections	Designs/designers of the century	How design makes the world
Cultural Capital Experiences	Nissan innovation station - transport museum	Natural history museum - Biomimicry	V&A exhibitions	Design museum	V&A/Design museum - Specific exhibitions.

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Links To The National Curriculum

Design & Technology

When designing and making, pupils should be taught to:

The National Curriculum	KTC reference to the National Curriculum
Design	Throughout KS3
use research and exploration, such as the study of different cultures, to identify and understand user needs	All KS3- Design projects will require students to consider user needs and will be with a specific user/culture in mind.
identify and solve their own design problems and understand how to reformulate problems given to them	All KS3- Designing will require students to solve problems to meet a brief/specification using iterate design throughout.
develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations	All years will require students to follow/refer to a specification - Year 9 will focus on producing their

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	own using informed research to help.
use a variety of approaches [for example, biomimicry and user-centred design] to generate creative ideas and avoid stereotypical responses	Biomimicry will be combined in to batik textiles based project - User centered design will also be used within project to help form ideas.
develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations	All KS3- Designs will be produced using different media and drawing techniques as well as oral presentations - (STEM projects and upcycling project)

The National Curriculum	KTC reference to the National Curriculum
Make	All KS3
select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture	All practical work throughout KS3 will use a selection of hand tools, machines as well as CAD/CAM.

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select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties	All practical work throughout KS3 will focus on Wood, plastic and metal processes.
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The National Curriculum	KTC reference to the National Curriculum
Evaluate	
analyse the work of past and present professionals and others to develop and broaden their understanding	Product analysis of relevant products being made will be carried out as well as specific research into designs/designers that are relevant to the project.
investigate new and emerging technologies	STEAM projects as well as whatever is relevant to the materials being covered in the project being completed at the time.

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test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups	All ks3 - All projects will have an element of evaluation/development considering both peer and self assessment.
understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists	All projects will include an element of this depending on the materials being used- Main focus upcycling project.

The National Curriculum	KTC reference to the National Curriculum
Technical knowledge	
understand and use the properties of materials and the performance of structural elements to achieve functioning solutions	STEAM - rollercoaster design
understand how more advanced mechanical systems used in their products enable changes in movement and force	Year 8 CAM/mechanical toy project as well as STEAM projects.

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understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]	Year 9 main project will include electronics- Light
apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors] and control outputs [for example, actuators] using programmable components [for example, microcontrollers]	STEAM rocket car challenge

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Pupils should be taught:

The National Curriculum	KTC reference to the National Curriculum
to use a range of techniques to record their observations in sketchbooks, journals and other media as a basis for exploring their ideas	ALL
to use a range of techniques and media, including painting	ALL
to increase their proficiency in the handling of different materials	ALL
to analyse and evaluate their own work, and that of others, in order to strengthen the visual impact or applications of their work	ALL

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about the history of art, craft, design and architecture, including periods, styles and major movements from ancient times up to the present day.



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Projects will have research themes based on relevant design styles/movements or architecture.