



Key Stage 3 Design & Technology Sequence of Work

Through a variety of creative & practical activities, students are taught the knowledge, understanding & skills needed to engage in an iterative process of designing & making. Students work in a range of contexts including the home, health, leisure & culture & industrial contexts including CAD CAM engineering, manufacturing, food & construction.

When designing & making at Madeley Academy, students are taught to:

	Year 7 Sequence						Year 8 Sequence						Year 9 Sequence				
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	
Design																	
use research & exploration, such as the study of different cultures, to identify & understand user needs	■		■						■					■	■		■
identify & solve their own design problems & understand how to reformulate problems given to them	■		■						■				■	■			
develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations	■		■						■				■	■	■		■
use a variety of approaches [for example, biomimicry & user-centred design] to generate creative ideas & avoid stereotypical responses	■		■		■				■		■		■	■			
develop & communicate design ideas using annotated sketches, detailed plans, 3-D & mathematical modelling, oral & digital presentations	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Make																	
select from & use specialist tools, techniques, processes, equipment & machinery precisely, including computer-aided manufacture		■		■	■	■		■		■	■	■		■		■	
select from & use a wider, more complex range of materials, components taking into account their properties		■		■	■	■		■		■	■	■		■		■	
Evaluate																	
analyse the work of past & present professionals & others to develop & broaden their understanding	■					■	■					■					
investigate new & emerging technologies	■		■			■	■		■			■	■		■	■	
test, evaluate & refine their ideas & products against a specification, taking into account the views of intended users & other interested groups	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
understand developments in d & t, its impact on individuals, society & the environment, & the responsibilities of designers, engineers & technologists	■		■				■		■				■		■	■	
Technical knowledge																	
understand & use the properties of materials & the performance of structural elements to achieve functioning solutions	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
understand how more advanced mechanical systems used in their products enable changes in movement & force		■			■			■			■						
understand how more advanced electrical & electronic systems can be powered & used in their products								■									
apply computing & use electronics to embed intelligence in products that respond to inputs & control outputs using programmable components								■									
Cooking & nutrition																	
understand & apply the principles of nutrition & health															■		
cook a repertoire of predominantly savoury dishes so that they are able to feed themselves & others a healthy & varied diet															■		
become competent in a range of cooking techniques															■		
understand the source, seasonality and characteristics of a broad range of ingredients															■		

