Design Technology KS3 Skills Curriculum Map

	Timber & Manmade boards (CAD/CAM Desk Tidy)				**Polymers & Graphics - (Acrylic Egg Holder & Packaging)**			
Y7	Introduction to Health and Safety in the Workshop	Learning about different types of timber and manmade boards, their properties and uses.	Learning to use Hand tools to measure, mark, cut and finish accurately.	Learning to safely use Power & Machine tools - the Pillar Drill and Power Sander	Introduction to CAD CAM, Laser cutting and hand drawing techniques to create accurate working drawings.	Marking, cutting and finishing of Acrylic. Use of Jigs and Line Bending processes.	Commercial graphics techniques- Isometric and 2D net drawings. Typeface/font in text design.	**ASSESSMENT: Different types of Timber and Polymers, their properties and uses. Health and Safety-tools used in the workshop. 2D Technical drawing task.**
	Electronics Systems Fabrication (Personal Speaker)				**Structures/Mechanisms (Roman Catapult)**			
Y8	Learning the soldering process and introduction to electronics fabrication and components.	Learning about industrial processes, using a jig/mould and Vacuum former.	Learning about sustainability, the different types of Polymers and the impact they have on the environment.	CAD/CAM- Importing and editing Bitmaps to create Laser cutting paths and etched detailing.	Introduction to Forces and Motion- Levers and Structures in a Roman Catapult	Independent, group/teamwork Design and Make task- create a solution and build a catapult structure.	Learning to sketch and draw ideas in Isometric both by hand and using CAD/CAM.	**ASSESSMENT: More advanced types of Hand and Machine tools and industrial processes. CAD tools and techniques. 2D/3D Isometric drawing task.**
	Metals & Alloys (Coat Hook)				**Programmable Systems (Crumble Challenge)**			
Y9	Introduction to the uses and working properties of different types of metals and alloys.	Learning about industrial metalworking processes, including rivetting, welding, brazing, soldering.	Experience engineering hand tool skills and techniques, including rivetting and bending jigs.	Building on prior learning to develop more advanced CAD/CAM techniques including Orthographic drawing.	Learning the basics of programmable Redfearn Crumble kits- sequences- Input and Outputs.	Experience and experiment with a range of virtual and physical input and outputs and apply to practical projects.	2D and 3D Modelling and fabricating of protypes using CAD CAM and Laser cutting techniques.	**ASSESSMENT: Consolidating all materials, electronics & CAD/CAM knowledge gained during KS3 through designing and making**