

Design and Technology Skills and Progression

	Design	Make	Evaluate	Food technology and nutrition	Technical knowledge and tools
	To include: Context Communicate Imagine Sketch Computer programs	To include: Follow instructions Model Construct Use finish Conclude	To include: Language for purpose Critically evaluate Improve/adapt Record information	To include: Hygiene Eat well plate Preparation Cooking	To include: Workshop hand tools Workshop power tools Modelling tools Soft materials Hard materials
Year 5	<p>Pupils can:</p> <ul style="list-style-type: none"> understand the context of pre-written brief; create a success criterion from a bank of potential outcomes; communicate the needs of a client through appropriate scaffolding; have imaginative ideas for products that are appropriately coaxed; develop methods of sketching through tracing and copying images; use online resources to gather information; collate information for research in a basic format. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use verbal instructions to follow basic processes of printing; understand the health and safety requirements of a workshop environment; use basic paper models to try out ideas follow basic cutting instructions; have an emerging/secure knowledge of knots and how to secure with string; use the hot glue guns; apply finishes through instruction for waterproofing. 	<p>Pupils can:</p> <ul style="list-style-type: none"> Understand the importance of using the correct language, through conversation; use scaffolded terminology in the description of own work; evaluate their own work; understand how a piece could have been adapted; record final elements use this record to show personal feelings on result. 	<p>Pupils can:</p> <ul style="list-style-type: none"> Know how to clean hands properly and use basic sanitary conditions; understand the importance of nutrients in the eat well plate; use basic preparation techniques to produce a simple fruit dish; understand broad and balanced diets; have a basic level of knife skills, simple soft materials; use simple heating techniques to warm through food to improve texture and taste; be able to clean down working area to a basic level. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use of measuring and marking equipment; use of tenon saws and appropriate holding equipment; use hot glue guns; select and use the correct paper and card for modelling from a limited selection; use acrylic paints to print; use string as a bonding method; use masking tape to help secure items together; use thin sheets of MDF cut to a basic level with 90deg cuts; use thin sections of softwood for frame building purposes.

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Year 6	<p>Pupils can:</p> <ul style="list-style-type: none"> use a brief to develop a success criterion that is scaffolded through discussion; use appropriate language to explain the needs of a client; develop imaginative ideas through collaborative working that require further development; Understand the difference between sketching and formal drawing; Have an emerging ability for accurate drawing; Understand the importance of measurements and accuracy in drawing for products; Utilise online research to outline product requirements; understand the use of CAD within product designing; understand the use of 2D design to produce basic CAD work. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use verbal and pictorial instructions for measuring and marking acrylic; Record the dangers of cutting equipment through scaffolded written elements; Use the line bender and record the process with sketches; Understand the process of cutting basic shapes with jigsaws; Have an emerging understanding of correct wood joint use; Use sandpaper and files to clean edges and finish shapes; Use acrylic paints to add colour and detail to wooden models. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use descriptive words to express opinions Have a bank of technological terms that are used for technical evaluations; evaluate their own work; Consider WAGOLL at the start of a project to guide ideas and critically evaluate; Record final elements and use this record to show room for improvements. 	<p>Pupils can:</p> <ul style="list-style-type: none"> know how to clean hands properly and work in a clean area; Understand the importance of nutrients in the eat well plate, exploring how vegetables change through cooking; Use basic preparation techniques to produce a simple dessert with a sponge top; Have a basic understanding of broad and balanced diet, and how sugar and fat effect the body; Have an emerging level of knife and coring skills; Use simple heating techniques to warm through food to cook food ready for eating; Be able to clean down working area to a good level, understand the importance of washing up. 	<p>Pupils can:</p> <ul style="list-style-type: none"> show developed ability in the use of measuring and marking equipment; Have a basic skill in the use of Coping saws and appropriate holding equipment; Know how the laser cutter can be used to add detail; Have an emerging confidence on the hegrer saw; Be able to select and use the most appropriate adhesive, from hot glue gun, PVA and prit stick; Select and use the correct paper and card for modelling from a broad range Cut and clean acrylic basic shapes; Be confident on the polishing motor; Understand how to use the linebender; Use masking tape as a mask for painting areas; be confident in the use of simple wood joints (housing joint) and produce in softwood sections; Use thin sections of MDF cut to advanced shapes by hand and on workshop equipment.

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Year 7	<p>Pupils can:</p> <ul style="list-style-type: none"> develop a brief and success criteria from a single client statement; Have an emerging understand of target markets; Use research to develop imaginative ideas for a product that solves a problem; Know when to use sketching and when to use formal drawing; Develop formal drawing techniques to include complex geometric shapes; Understand the role of perspective in design; Have an emerging understanding of scale in product design; Use measuring equipment accurately on the page with minimal intervention; Be able to use the general 2D design tools to create complex shapes in CAD; understand that CAM equipment can be used to realise CAD designs. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use verbal and written instructions to follow processes of making; Use a variety of 'ready-made' items to test structures strength; Utilise knives, safety rulers and cutting mats to produce scaled models; Be proficient in the use of measuring and marking equipment; Understand the importance of safety on power equipment, and record the dangers; Be able to produce basic moulds for the vacuum former, understand how to clean polypropylene sheet to a good standard and add ready made parts to create working items. 	<p>Pupils can:</p> <ul style="list-style-type: none"> use descriptive sentences to express opinions and predict outcomes; build bank of own technical terms from use within demonstrations; evaluate their own and others' work; Reflect upon own improvements on technique and finish with a view to next steps; Record final elements use this record to show personal feelings and be able to adapt images to be fit for purpose. 	<p>Pupils can:</p> <ul style="list-style-type: none"> know how to work in a hygienic manner throughout food preparation; Understand the importance of nutrients in the eat well plate, understanding the use of carbohydrates in the conversion of energy in the body; Use basic preparation techniques to create a mash topped pie; Have a good understanding of broad and balanced diet, knowing the importance of carbohydrates and sugars; Have a good level of knife skills and be able to use them on tough materials; Use complicated heating techniques to warm through food for eating; Be able to clean down working area to a good level, taking a key role in washing and tidying away. 	<p>Pupils can:</p> <ul style="list-style-type: none"> show secure ability in the use of measuring and marking equipment; Have well developed skill in the use of Coping saws and tenon saws with a range of appropriate holding equipment; Have a good level of confidence on the hegner saw; Be able to select and use the correct adhesive from a range of options depending on the task; Be confident in the safe use of modelling tools such as craft knives, safety rulers and cutting mats; Cut and shape MDF for vacuum forming Have an emerging confidence on the disk sander; Understand the process of vacuum forming, and be able to draw the process; be confident in the use of ready-made components for adapting own designs; Be able to add detail using a variety of paints and adhesive plastics.

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Year 8	<p>Pupils can:</p> <p>utilise multiple client requirements to develop a success criteria and detailed brief;</p> <p>Understand the role of target markets and customer examples in product development;</p> <p>Be able to use multiple sources of research to critically evaluate information for designing;</p> <p>Use modelling and iterative designing to develop ideas to a known conclusion;</p> <p>Develop sketches to formal drawings such as orthographic projection or isometric images;</p> <p>Use 2 point and 1-point perspective drawings to illustrate views of perspective;</p> <p>Use and communicate accurate scales within a technical drawing;</p> <p>Be consistently accurate in measurements of sketch work;</p> <p>Understand the complex designing tools within 2D design;</p> <p>Understand how to adapt the layout of 2D design to manipulate an image for CAM;</p> <p>Select images to be used on the laser cutter and adapt them for purpose.</p>	<p>Pupils can:</p> <p>follow pictorial and written instructions to a good standard, create a flow sheet of verbal instructions;</p> <p>Utilise measuring and marking tools to a good level of accuracy;</p> <p>Be proficient in the use of tenon saws and bench hooks, with good accuracy;</p> <p>Have confidence in the use of disk sander and pillar drill;</p> <p>Record safety protocol with the use of stationary workshop equipment;</p> <p>Be able to adapt to create working jaws;</p> <p>Utilise hardboard and MDF to adapt a basic design for purpose;</p> <p>Attach readymade fittings;</p> <p>Utilise stains and varnishes to add a clean finish to wood boxes.</p>	<p>Pupils can:</p> <p>use complex descriptive sentences to express opinions with a view to positives and negatives and predict outcomes;</p> <p>Build upon bank of own technical terms from use within demonstrations and from research;</p> <p>evaluate their own work;</p> <p>Produce a set of criteria from a WAGOLL can be adapted to other schemes of work;</p> <p>Reflect upon own improvements on technique and finish with a view to next steps;</p> <p>Record final elements in a variety of ways use this record to show personal feelings and be able to adapt images to be fit for purpose.</p>	<p>Pupils can:</p> <p>be highly proficient in hygienic working methods from start to finish in the kitchen;</p> <p>Understand the importance of nutrients in the eat well plate, including complex proteins and how they are digested within the body;</p> <p>Use complex preparation techniques including twice cooking in the completion of Samosa;</p> <p>Have a thorough understanding of broad and balanced diet, and the interplay between vegetables and proteins in nutrition;</p> <p>Have a good level of knife skills and be able to select the correct equipment for cooking with and storing food in;</p> <p>Use complicated multiple heating and cooling techniques to cook and store food;</p> <p>Be able to clean down working area to a near perfect level, taking a key role in washing and tidying away</p>	<p>Pupils can:</p> <p>show a high level of detail in the use of measuring and marking equipment;</p> <p>Self-belief in the ability to use Coping saws and tenon saws with a range of appropriate holding equipment without regular intervention;</p> <p>Understand how larger workshop equipment can be used by staff to aid production;</p> <p>Have a good level of confidence on pillar drill;</p> <p>Be able to select and use the correct finishing paper from a range of sand/glass paper available;</p> <p>Show a proficient level of ability in the safe use of modelling tools such as craft knives, safety rulers and cutting mats;</p> <p>Cut and shape Softwood to a highly accurate level;</p> <p>Have a secure confidence on the disk sander; Show confidence in pin and glue wood joints which have a good accuracy;</p> <p>know how to add bought in components to add finishing details to designs;</p> <p>Be able to add professional finish through the use of papers and stains to soft wood.</p>

Design and Technology Skills and Progression

Systems and electrics

	To include: Understand components Realise systems
Year 7	<ul style="list-style-type: none">• Be able to use a soldering iron to safely build basic circuits.
Year 8	<ul style="list-style-type: none">• Be able to adapt syringes and tubes to serve the purpose of pneumatic lifting.• Use levers and linkages (ready-made and self-made) to perform systematic tasks.