Highfields Academy, Nantwich – DT Progression of Skills and Key Vocabulary

	The Design Process		Area	Technical Skills and Key Vocabulary
Year 1	Designing	• I can recognise characteristics of familiar products. • I can talk about my ideas and use pictures and words to describe what I want to make. • Investigate, design, make, evaluate	Structures	• I can build structures and investigate how they can be made stronger, stiffer and more stable. • I can join and shape materials (using glue and hinges). • structure, frame, weak, strong, rigid, stable, base, material, cut, fold, join, fix, strengthen
	Making	• I can choose from a range of materials. • I can select from and use a range of tools and equipment to shape, join and finish products. • I can cut materials safely using the tools provided.	Mechanisms	• I can create moving pictures using sliders and levers. • I can explain how sliders and levers move. • mechanism, slider, lever, pivot, slot, bridge/guide, card, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards
	Evaluating	• I can explore a range of existing products and designs to identify likes and dislikes. • I can say what I like and dislike about my designs. • I can refine my design as my work progresses.	Food	• I understand where food comes from. • I understand how to wash my hands properly. • I can cut, peel or grate ingredients safely. • I can taste, select and assemble ingredients. • fruit and vegetable names, names of equipment and utensils, sensory vocabulary (juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard), flesh, skin, seed, pip, core, ingredients, slice, peel, cut, squeeze, taste, choose, arrange, popular.

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	The Design Process		Area	Technical Skills and Key Vocabulary
Year 2	Designing	• I can create designs using drawing, templates, mock-ups and where appropriate, software with support. • I can explain what my product is, who it is for and why I am making it. • Investigate, design, make, evaluate, product, user, purpose	Textiles	• I can shape textiles using templates and understand that a 3-D textile product can be assembled from two identical fabric shapes. • I can join textiles using a running stitch. • I can colour and decorate textiles using a number of techniques. • textiles, fabric, template, join, glue, staple, sew, thread, needle, pin, decorate, finish
	Making	• I can choose from a range of materials and explain why they are being used. • I can select from and use a range of tools and equipment to cut, shape, join and finish products.	Mechanisms	• I can create a moving vehicle using wheels and axles. • I can explain how wheels, axles and axle holders can be fixed. • mechanism, vehicle, wheel, axle, axle holder, chassis, body, cab, assemble, cut, join, shape, finish, fixed, free, moving, names of tools, equipment and materials used
	Evaluating	• I can explain why I like and dislike aspects of existing designs and products. • I can suggest improvements to my work and the work of others. • I can refine my design as my work progresses and give reasons for any changes I make.	Food	• I understand what a healthy and varied diet is. • I can name and sort familiar foods using the Eatwell Plate. • I can select and assemble ingredients safely and hygienically with support. • ingredient names, names of equipment and utensils, sensory vocabulary (juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard), ingredients, balanced diet, slice, peel, cut, squeeze, taste, choose, arrange, popular.

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	The Design Process		Area	Technical Skills and Key Vocabulary
Year 3	Designing	• I can design with purpose and identify the product criteria and intended user. • I can use annotated sketches, diagrams, prototypes and software with increasing independence to design products. • I can complete a plan that shows what equipment and tools I need. • design, make, evaluate, product, user, purpose, function design brief, design criteria, prototype	Structures	• I can make the nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • I can strengthen materials using suitable techniques to create strong, stiff shell structures. • structure, shell structure, three-dimensional (3-D) shape, packaging, net, marking out, scoring, folding, tabs, accuracy, strengthen, (layering, laminating, corrugating, ribbing), font, CAD (computer aided design)
	Making	• I can explain how I have selected appropriate materials and components to create my product. • I can select appropriate joining techniques. • I can select appropriate tools and cut materials safely and with some accuracy.	Mechanisms	• I can create products using levers and linkages. • I can explain the difference between fixed and loose pivots. • I can explain how lever and linkage mechanisms move. • mechanism, lever, linkage, pivot, slot, bridge, guide, fixed pivot, loose pivot, system, input, process, output, linear, rotary, oscillating, reciprocating
	Evaluating	• I can investigate and analyse a range of existing products. • I can name a famous designer or chef. • I can refine my design and techniques as my work progresses and give reasons for any changes.	Food	• I can taste ingredients and explain preferences using a developing food vocabulary. • I can explain which ingredients are fresh, processed, grown, reared or caught. • I can select and assemble ingredients safely and hygienically using appropriate utensils. • names of equipment, utensils, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, savoury, appearance, smell, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, balanced diet, food group

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	The Design Process		Area	Technical Skills and Key Vocabulary
Year 4	Designing	• I can design with purpose and explain how my design meets the product criteria. • I can use annotated sketches, diagrams, pattern designs and software to design products. • I can complete a plan that shows the order and what equipment and tools I need. • investigate, design, make, evaluate, product, user, purpose, function design brief, design criteria, prototype, annotated sketch	Textiles	• I understand the need for patterns and a seam allowance. • I can join textiles with appropriate stitching. • I can select the most appropriate techniques to decorate textiles. • textiles, fabric, names of fabrics, template, pattern, sew, stitch, running stitch, back stitch, over sew stitch, blanket stitch, seam, seam allowance, structure, finishing technique, appliqué, aesthetics.
	Making	• I can explain clearly how my choice of materials and components has contributed to my product. • I can choose suitable techniques to construct products or to repair items. • I can cut, join and finish products with some accuracy.	Electrical systems	• I can create series and parallel circuits. • I can use a circuit in my product and incorporate a bulb, and switch/buzzer. • circuit, switch, current, short circuit, battery/cell,/bulb, battery holder, wire, switch, input/ output device, conductor, insulator, connection, crocodile clip.
	Evaluating	• I can disassemble and analyse a range of existing products. • I am beginning to find out about famous designers and bakers. • I can refine work and techniques as work progresses, continually evaluating the product design.	Food	• I can select and assemble ingredients hygienically using appropriate utensils. • I can follow a recipe (controlling the temperature of the oven if cooking) • I can measure and weigh ingredients appropriately. • names of equipment, utensils, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, savoury, appearance, smell, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, balanced diet, food group

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	The Design Process		Area	Technical Skills and Key Vocabulary
Year 5	Designing	• I can carry out research, using surveys, interviews or questionnaires to identify the needs, wants, preferences and values of particular individuals or groups. • I can use annotated sketches, prototypes, cross-sectional and exploded diagrams, pattern designs and computer software to design products. • I can produce appropriate lists of tools, equipment and materials that I need and formulate step-by-step plans as a guide to making. • investigate, design, make, evaluate, product, user, purpose, function, research, survey, questionnaire, design brief, design criteria, prototype, annotated sketch, cross-sectional diagram, exploded diagram, pattern designs	Structures	• I can join paper straws or wood to make frame structures. • I understand how to strengthen, stiffen and reinforce frame structures using triangulation. • frame structure, strengthen, reinforce, joint, triangulation, stability, temporary, permanent, rigid, foundation, horizontal, diagonal, vertical
	Making	• I can cut materials with precision and refine the finish with appropriate tools. • I can select from a wide range of materials and components according to their functional properties and aesthetic qualities. • I can choose appropriate tools to cut and shape according to the quality of the material (such as the nature of fabric may require sharper scissors than would be used to cut paper).	Mechanisms	• I can create products using gears, pulleys or cams. • I can explain what the input, process and an output are in my product. • I can explain how cams can produce different types of movement and change the direction of movement. • Cam, (snail cam, off-centre cam, peg cam, pear shaped cam), follower, axle, shaft, crank, handle, rotation, (rotary motion, oscillating motion, reciprocating motion)
	Evaluating	• I can disassemble products to understand what they are made from and how they work. • I can research famous designers, engineers and bakers/chefs. • I can evaluate my products against their design criteria and consider the views of others to improve my work. • I can make refinements to products and give detailed reasons for my choices.	Food	• I understand what seasonality is and know how a variety of ingredients are grown, reared, caught and processed. • I can join and combine ingredients appropriately to create seasonal dishes. • I can create and refine recipes. • ingredients, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble

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	The Design Process		Area	Technical Skills and Key Vocabulary
Year 6	Designing	• I can carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • I can develop a simple design specification to guide the development of my ideas and products. • I can identify some of the great designers, inventors, engineers and chefs when generating ideas for my products. • I can use annotated sketches, prototypes, cross-sectional and exploded diagrams and computer software to design products with increasing complexity. • investigate, design, make, evaluate, product, user, purpose, function design brief, design criteria, prototype, annotated sketch, cross-sectional diagram, exploded diagram	Textiles	• I can create objects that employ a seam allowance. • I can join textiles with a combination of stitching techniques (such as backstitch for seams, running stitch to attach decoration). • I can use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for comfort on a cushion). name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, seam, seam allowance, right side, wrong side, template, mock up, pattern pieces, aesthetics, appliqué, functionality
	Making	• I can formulate a clear plan, including a step-by-step list of what needs to be done and a list of resources to be used. • I can competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • I can use finishing and decorative techniques suitable for the product I am designing and making.	. Electrical systems	• I can create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). • series circuit, parallel circuit, push-to-break/make switches, reed switch, tilt switch, toggle switch, input/ output devices, control boxes, timed systems, monitoring systems, micro-switch, light dependent resister (LDR), monitor, control, program, flowchart
	Evaluating	• I can investigate and evaluate a range of existing products, explaining why materials have been chosen, the methods of construction used, how well they work, and how innovative and sustainable they are. • I can independently research the work of famous designers, inventors, engineers and chefs. • I can critically evaluate my product against the design specification, identify strengths and areas for development, and carry out appropriate tests.	Food	• I can demonstrate a range of baking and cooking techniques to create savoury dishes. • I can create and refine recipes including ingredients, methods, cooking times and temperatures. • ingredients, dough, bran, flour, wholemeal, unleavened, baking soda, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble