



Progression of Skills

DESIGN TECHNOLOGY

	Designing	Evaluating	Making	Structures	Mechanism & Mechanical Systems	Textiles	Electrical Systems	Food
Year 1	<ul style="list-style-type: none"> To know the difference between natural and manufactured (man-made) Know & understand the term 'design' To know that different products are more suitable for different people. To generate ideas to solve problems using resources they are familiar with. To talk about their ideas and to draw them. 	<ul style="list-style-type: none"> To make simple statements about their own personal tastes, things that work well and things that don't. To know that all manufactured products are tested. To explore who and what products are made for and what they are made from To match products to users giving reasons. To say whether or not their ideas have worked, have worked well or haven't worked. 	<ul style="list-style-type: none"> To know the term 'plan' To follow a plan using 'first' 'next' 'then' To suggest what the next step in a plan could be. To know how the tools they are using could hurt us To begin to measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components. 	Freestanding Structures <ul style="list-style-type: none"> Know the terms: Structure, weak, strong, stiff, stable, base, cut, fold, join, fix To know that structures are more stable when the base is wide or heavy To know that thin materials can be folded to make them stronger and to make them stand up. To recognise the following tools and say what each is used for Scissors, ruler, hole punch 	Sliders & Levers <ul style="list-style-type: none"> Know the terms: slider, lever, pivot, slot, bridge/guide, pull, push, up, down, straight, curve, forwards, backwards Create a lever using a card strip and a paper fastener as a pivot. Create a slider using a card strip and a guide 			Preparing Fruit <ul style="list-style-type: none"> Know the terms: Fruit, vegetable, flesh, skin, seed, pip, core, cutting, squeezing, healthy diet. To know that some food comes from plants and some from animals To know that some foods are healthy and others aren't always To cut using a vegetable knife using a bridge grip To use a juicer To know the importance of hand washing in food preparation
Year 2	<ul style="list-style-type: none"> To know the terms 'design brief' and 'design criteria' use simple design criteria; state what their products are, who and what they are for and how they will work. generate ideas using their own experiences and existing products; use talk, drawing, templates, mock-ups and, where appropriate, computers 	<ul style="list-style-type: none"> make simple judgements about their products and ideas against design criteria. explore who and what products are for, how they work and are used, what materials they are made from and what they like and dislike about them. To say whether or not their ideas have worked well or not giving reasons for their answers. 	<ul style="list-style-type: none"> plan by suggesting what to do next; Use a numbered plan (ordinal) select from a range of tools, equipment, materials and components. follow procedures for safety and hygiene; measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components. 		Wheels & Axles <ul style="list-style-type: none"> Know the terms: vehicle, wheel, axle, axle holder, chassis, body, cab To recognise the following tools and say what each is used for - junior hacksaw To measure, mark and cut a wooden dowel to length. 	Templates & Joining Techniques <ul style="list-style-type: none"> Know the terms: fabric, sew, stitch, seam, template, mark-out To recognise the following tools and say what each is used for – needle, pin, safety pin To use a template to duplicate a part To sew using a running stitch 		Preparing Vegetables (salads) <ul style="list-style-type: none"> To know the terms: peel, peeling, slice, grate To know that some food comes from farms, caught in the sea and some can be home grown To know that we should eat 5 portions for fruit or vegetables a day To slice using a vegetable knife using a 'fork secure' grip To use a peeler To use a grater To snip or cut ingredients using scissors To know the importance of good hygiene in food preparation

	Designing	Evaluating	Making	Structures	Mechanism & Mechanical Systems	Textiles	Electrical Systems	Food
Year 3	<ul style="list-style-type: none"> To know the terms 'user' 'purpose' and 'design feature' relating to design criteria. To know that information from different sources can be used to inform design decisions. To know that the user may have different requirements from themselves. To generate effective ideas using information given or collected about the user. To produce clear labelled drawings of their ideas on paper and using ICT. 	<ul style="list-style-type: none"> To know the term 'Evaluate' To know the designer's responsibility to evaluate their products To evaluate their ideas and products using their knowledge of their user and purpose. To explain the success or otherwise of their design decisions. 	<ul style="list-style-type: none"> Plan making a project, identifying and numbering the main stages. Understand that some stages can be undertaken concurrently without affecting others. follow procedures for safety and hygiene; use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with some accuracy 	Shell Structures <ul style="list-style-type: none"> Know the terms: shell structure, three-dimensional (3-D) shape, net, length, width, breadth, capacity, marking out, scoring, tabs, corrugating, ribbing, laminating To score a line accurately with a ruler and tool To add tabs to a 2D shape to allow joining To stiffen a flat piece of material using laminating, ribbing and corrugating To recognise the following tools and say what each is used for – scoring tool 		2D Shape to 3D Product <ul style="list-style-type: none"> Know the terms: fastener, applique To create a 3D product from 2D pattern pieces To sew using a back stitch To use seam allowances when creating with textiles 		Dips & Dippers <ul style="list-style-type: none"> To know the terms: crush, mix, combine, blend To identify healthy and potentially unhealthy ingredients. To know that our food is grown all over the world To slice using a vegetable knife and a claw grip To know the importance of packaging in food hygiene
Year 4	<ul style="list-style-type: none"> gather information about user needs; develop their own design criteria; describe the user, purpose and design features of their products and explain how they will work. generate realistic ideas based on user needs; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design. 	<ul style="list-style-type: none"> evaluate their ideas and products against their design criteria. compare how well two products have been designed and made, whether they are fit for purpose and meet user needs; why materials have been chosen, the methods of construction used and how well they work. 	<ul style="list-style-type: none"> order the main stages of making including any that are critical (one that subsequent stages cannot be started before it is complete) select suitable tools, equipment, materials and components and explain their choices. Begin to devise their own procedures for safety and hygiene use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with some accuracy. 		Pneumatics <ul style="list-style-type: none"> Know the terms: - components, system, tubing, syringe, plunger, pneumatic input ,output, control, compression, pressure, inflate, deflate, pump, seal, air-tight, hydraulic Know how a pneumatic system works with an input and output movement To combine a pneumatic system with a slider or lever To know that a hydraulic system uses a liquid instead of air 		Simple Circuits and Switches <ul style="list-style-type: none"> Know the terms: series circuit, fault, connection, switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip To make a variety of simple switches using classroom materials To include a switch in their finished product To include a circuit diagram in their design 	Making a healthy snack bar <ul style="list-style-type: none"> To know the terms: dice, chop finely, melt, heat To know some healthy alternatives to popular sweets and drinks To warm and melt ingredients safely using a heat source To understand an ingredient's or product's shelf life including use by and best before dates

	Designing	Evaluating	Making	Structures	Mechanism & Mechanical Systems	Textiles	Electrical Systems	Food
Year 5	<ul style="list-style-type: none"> To plan an information gathering exercise to collect data on the user. To know that they can decide on their own design criteria for a product. To generate innovative ideas using information collected using accurate labelled drawings, prototypes and computer-aided design 	<ul style="list-style-type: none"> To make realistic judgements about the products they make in relation to the design brief. To suggest ways that their designs could be improved and the effect this would have on the user. To compare how well a range of products have been designed and made whether they are fit for purpose and meet user needs; why materials have been chosen, the methods of construction used and how well they work. 	<ul style="list-style-type: none"> Begin to formulate lists of resources and equipment and create step-by-step plans; select suitable tools, equipment, materials and components and explain their choices. To devise and follow procedures for safety and hygiene; use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with accuracy. 	Frame Structures <ul style="list-style-type: none"> To know the following terms frame structure, reinforce, triangulation, temporary, permanent To recognise the following tools and say what each is used for junior hacksaw, bench hook To use a bench hook to cut at 90° To reinforce a 'but' joint using card triangles To reinforce square frames using triangulation 			More complex circuits and switches <ul style="list-style-type: none"> Know the terms: parallel circuit, input, output, monitoring, control To write a control programme as part of their design To design a product using a parallel circuit controlled by two or more switches To control the operation of their product 	Celebrating Culture Making Bread <ul style="list-style-type: none"> know the terms: yeast, dough, flour, wholemeal, unleavened, sweet, savoury, mix, bake, weigh, wet, dry To understand the processing of ingredients such as flour from wheat To know that some ingredients can be unhealthy for people with food allergies To know how to use an oven safely including using an oven glove.
Year 6	<ul style="list-style-type: none"> carry out research; develop a simple design specification; describe the user, purpose and design features of their products and explain how they will work. generate innovative ideas drawing on research; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design 	<ul style="list-style-type: none"> identify strengths and areas to develop in their ideas and products against their design specification; consider the views of others to make improvements. investigate how well products have been designed and made, whether they are fit for purpose and meet user needs; why materials have been chosen, the methods of construction used, how well they work, and how innovative and sustainable they are. 	<ul style="list-style-type: none"> formulate lists of resources and detailed step-by-step plans; select suitable tools, equipment, materials and components and explain their choices. To devise and follow procedures for safety and hygiene; use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with accuracy. 		Cams <ul style="list-style-type: none"> Know the terms: cam, , follower, axle, handle, housing/ framework, rotation, rotary motion, oscillating motion, reciprocating motion To recognise the following tools and say what each is used for – hand drills, clamps To make an accurate hole through a piece of wood using a hand drill To investigate the different motions produced by different shaped cams. To combine a cam with a follower 	Combining Fabric shapes <ul style="list-style-type: none"> Know the terms: tack, embroider, reinforce To know how fabric is strengthened To fasten pieces together temporarily using a large running stitch (tack) To combine different types of fabric To use embroidery to decorate fabric. To embroider using a sating stitch 		Celebrating Culture Making Soup <ul style="list-style-type: none"> Know the terms: stock, herb, season, boil, simmer, tender, To rub in flour and knead dough To understand the seasonal nature of food and its availability and how modern production can negate this. To know that cooking ingredients can change their taste, texture and use