

Design and Technology Progression (Equals Trust)

		Year 3	Year 4	Year 5	Year 6
Topics	Mechanisms	Pneumatics- moving mascot	Electrical- torches using circuits and switches	Cams	
	Structures		Shell structures	Frame Structures	
	Textiles	2D shape to 3D product			Combining fabric shapes
	Food	Pizza-making	Soups / Super Salads	Christmas Cookies - celebrating culture and seasonality	Fair Trade Cookies
Designing	Understand users and purposes	 describe what their products are for say how their products will work explain how particular parts of their products work use design criteria to shape their ideas 	 explain how the features of their products will appeal to intended users explain how particular parts of their products work gather information about the needs and wants of particular individuals and groups develop their own simple design criteria and use these to shape their ideas 	 describe the purpose of their products indicate the design features of their products that will appeal to the intended users explain how particular parts of their products work gather information about the needs and wants of particular individuals and groups develop a simple design specification to guide their thinking 	 describe the purpose of their products indicate the design features of their products that will appeal to intended users explain how particular parts of their products work use market research to inform ideas develop a design specification to guide their thinking
	Ideas	 design a product, how it looks and works think through ideas with someone else model ideas using prototypes and pattern pieces draw and label my design use ICT to design to develop and communicate their ideas 	 share and clarify ideas through discussion model ideas using prototypes and pattern pieces use annotated sketches to develop and communicate ideas use ICT to design to develop and communicate their ideas 	 share and clarify ideas through discussion model ideas using prototypes and pattern pieces use annotated sketches and cross-sectional drawings to develop and communicate their ideas use ICT to develop and communicate their ideas generate ideas drawn from research 	 share and clarify ideas through discussion model ideas using prototypes and pattern pieces use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas use ICT to develop and communicate their ideas generate innovative ideas, drawing on research make design decisions, taking account of constraints such as time and resources
Making	Planning	 select tools and equipment suitable for the task follow a step by step plan, choosing the right materials and tools 	 explain their choice of tools and equipment in relation to the skills and techniques they will be using and the task Choose materials and components according to how they work and look order the main stages of making 	 select tools and equipment suitable for the task explain their choice of tools and equipment in relation to the skills and techniques they will be using select materials and components suitable for the task explain their choice of materials and components according to functional properties and aesthetic qualities produce appropriate lists of tools, equipment and materials that they will need make step-by-step plans as a guide to making 	
	ctical skills techniques	 follow procedures for safety and hygiene use a wider range of materials and components than KS1, incluce mechanical components measure, mark out, cut and shape materials and components w assemble, join and combine materials and components with sort apply a range of finishing techniques, including those from art a 	ling construction materials and kits, textiles, food ingredients, ith some accuracy ne accuracy nd design, with some accuracy	 follow procedures for safety and hygiene use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components accurately measure, mark out, cut and shape materials and components accurately assemble, join and combine materials and components accurately apply a range of finishing techniques, including those from art and design use techniques that involve a number of steps demonstrate resourcefulness when tackling practical tasks 	
	Prac	 Food: prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. 		 Food: how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking adapt recipes to change the appearance, taste, texture and aroma 	
Evaluating	Own ideas and products	 Show how their final product meets the design criteria Explain what went well and what they would change in their final design 	 explain what went well and what they would change use design criteria as they design and make use their design criteria to evaluate their completed products explain how they improved their original design 	 identify the strengths and areas for development in their ideas and products consider the views of others, including intended users critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make evaluate their ideas and products against their original design specification 	
	Investigating existing products	 how well have products been designed and made? why have those materials been chosen? what methods of construction have been used? how well do they work and achieve their purposes and meet user needs and wants? Investigate and analyse: where products were designed and made when products were designed and made whether products can be recycled or reused 		 how well have products been designed and made? why have those materials been chosen? what methods of construction have been used? how well do they work and achieve their purposes and methods and analyse: how much products cost to make how innovative products are how sustainable the materials in products are what impact products have beyond their intended purposes 	pet user needs and wants?

Design and Technology Curriculum- Equals Trust

		Year 3	Year 4	Year 5
	Designers	 Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	 Use learning from science and maths helps design and make products that work Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	 Apply learning from science and maths to help design and Know about inventors, designers, engineers, chefs and mather the stand mather the stand mather the standard standard
ledge	textiles	 that materials have both functional properties and aesthetic qualities that a single fabric shape can be used to make a 3D textiles product 	 Know materials can be combined and mixed to create more useful characteristics 	 that materials have both functional properties and aesther that materials can be combined and mixed to create more that a 3D textiles product can be made from a combination
Technical know	Structure	 how to make strong, stiff shell structures 	 how to make strong, stiff shell structures 	 how to reinforce and strengthen a 3D framework (eg trian
	Mechanis m	 how mechanical systems such as levers and linkages create movement 	 how mechanical systems such as levers and linkages or pneumatic systems create movement Know how simple electrical circuits and components can be used to create functional products 	 how mechanical systems such as cams or pulleys or gears that mechanical and electrical systems have an input, proc how to program a computer to monitor changes in the en
	Food	 know that food is grown (such as tomatoes, wheat and potatoe fish) in the UK, Europe and the wider world. know that seasons may affect the food available know how food is processed into ingredients that can be eaten of that food ingredients can be fresh, pre-cooked and processed know that a healthy diet is made up from a variety and balance that to be active and healthy, food and drink are needed to provide the season of the seas	 Know that seasons may affect the food available Know how food is processed into ingredients that can be Know the environmental impact of food and food miles that different food and drink contain different substance that a recipe can be adapted by adding or substituting on that a recipe can be adapted by adding or substituting on 	
		Year 3	Year 4	Year 5
	Design process	 prototype, innovative, appealing, design brief, research, evaluat model, annotated sketch, functional, aesthetics, function, 	 functionality, authentic, user, market research annotated sketches, exploded diagrams 	
	Mechanisms	 Pneumatics: components, attaching, tubing, syringe, plunger, split pin, pneumatic system, input movement, process, output movement tight linear, rotary, oscillating, reciprocating (motion) Electrical circuits series circuit, fault, connection, toggle switch, push-to-make s 	Cams: • cam, snail cam, off-centre cam, peg cam, pear shaped cam • axle, shaft, crank, handle, housing, framework • rotation, rotary motion, oscillating motion, reciprocating n • mechanical system, input movement, process, output mov <u>electrical circuits:</u> • series circuit, parallel circuit, names of switches and comp	
lary		holder, wire, insulator, conductor, crocodile clip • control, program, system, input device, output device		program, flowchart
Vocabu	structures	 shell structure, three-dimensional (3-D) shape, net, cube, cuboid marking out, scoring, shaping, tabs, adhesives, joining, assemble stiff, strong, corrugating, ribbing, laminating 	 frame structure, stiffen, strengthen, reinforce, triangulatic 	
	textiles	 fabric, fastening, compartment, zip, button, structure, finishing strength, weakness, stiffening, templates, stitch, seam, seam allowance, pattern pieces 	 seam, seam allowance, wadding, reinforce, right side, wro template, pattern pieces pins, needles, thread, pinking shears, iron transfer paper mock-up, prototype 	
	Food	 name of products, names of equipment, utensils, techniques an texture, taste, sweet, sour, hot, spicy, appearance, smell, prefer hygienic, edible, grown, reared, caught, frozen, tinned, processe 	 ingredients, yeast, dough, bran, flour, wholemeal, unleave fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrisavoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, w 	

Year 6
I make products that work anufacturers who have developed ground-breaking products
etic qualities e useful characteristics on of fabric shapes
ngulation, Jinx Joints, cross beams)
create movement cess and output
nvironment and control their products
e eaten or used in cooking
es – nutrients, water and fibre – that are needed for health e or more ingredients me or more ingredients
Year 6
n follower,
motion vement
oonents, input device, output device, system, monitor, control,
on, stability, shape, join, temporary, permanent

ong side, hem,

ened, baking soda, spice, herbs rition, healthy, varied, gluten, dairy, allergy, intolerance,

whisk, beat, roll out, shape, sprinkle, crumble