Strands of Design and Technology Understanding (see also Appendix 1)

Design	Make		Evaluate	Technical Knowledge	Cooking and Nutrition
	Planning	Practical Skills and Techniques			

EYFS - NURSERY AND RECEPTION

EYFS	
Nursery 3-4yrs	Physical Development - Fine Motor ● Use one handed tools and equipment, for example, making snips in paper with scissors. ● Use a comfortable grip with good control when holding pens and pencils. ● Show a preference for a dominant hand. Expressive Arts and Design - Creating with Materials ● Explore different materials freely, to develop their ideas about how to use them and what to make. ● Develop their own ideas and then decide on what materials to use to express them. ● Join different materials and explore different textures. Personal Social and Emotional Development - Managing Self ● Select and use activities and resources with help when needed. This helps them to achieve a goal that they have chosen or one that is suggested to them. ● Make healthy choices about food, drink, activity and toothbrushing.
Reception	Physical Development - Fine Motor ● Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools - pencils, paintbrushes, scissors knives forks and spoons Expressive Arts and Design - Creating with Materials ● Explore, use and refine a variety of artistic effects to express their ideas and feelings. ● Return to and build on their previous learning, refining ideas and developing their ability to represent them ● Create collaboratively, sharing ideas, resources and skills Personal Social and Emotional Development - Managing Self ● show resilience and perseverance in the face of challenge. ● Know and talk about the different factors that support their overall health and wellbeing - regular physical activity, healthy eating.

Statutory ELG: PD - **Fine Motor**	Children at the expected level of development will: ● **Hold a pencil effectively** in preparation for fluent writing – using the tripod grip in almost all cases; ● **Use a range of small tools, including scissors, paint brushes and cutlery;** ● **Begin to show accuracy and care when drawing.**
Statutory ELG: PSED - **Managing Self**	Children at the expected level of development will: ● **Be confident to try new activities and show independence, resilience and perseverance in the face of challenge;** ● Manage their own basic hygiene and personal needs, including dressing, going to the toilet, and **understanding the importance of healthy food choices.**
Statutory ELG: EAD - **Creating with materials**	Children at the expected level of development will: ● **Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function;** ● **Share their creations, explaining the process they have used** ● Make use of props and materials when role playing characters in narratives and stories
Statutory ELG: **Speaking**	Links: **Offer explanations for why things might happen, making use of recently introduced vocabulary**
Vocabulary	build, design, draw, cut, snip, join, stick, glue, tape, thread, model, strong, sturdy, chop, peel, spread, cook, eat, sharp, safe, healthy, food

YEAR 1

YEAR 1	Autumn	Spring 1	Summer 1	Summer 2
Vocabulary		vehicles, wheels, axels, chassis, axle, rod, centre, turn, frame, spindle, mechanism, move, design, specific purpose, creation, evaluation, design criteria,	peeling, tearing, slicing, chopping, mashing, grating, product, tool	shade, shelter, warmth, protection, weather, structures, environment, materials, strong, sturdy, temporary, permanent, similarities, differences, prototype
N.C. Coverage		Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Explore and use mechanisms in their products. **(wheels, axles and chassis)**	Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking and drawing. Select from and use a range of tools and equipment to perform practical tasks **(selecting food prep tools)** Evaluate their ideas and products against design criteria. Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. **(plant/animal derived)** Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate	Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates and **mock-ups. (junk modelling - use fabric sticks etc.. to mimic real life large scale resources)** Select from and use a wide range of materials and components, including construction materials, and textiles according to their characteristics. **(waterproof/absorbent/flexible - Science linked)** Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Build structures, exploring how they can be made stronger, stiffer and more stable.

			successfully in an increasingly technological world.	Develop the creative, technical and practical expertise needed to perform everyday tasks confidently.
Enquiry Questions		Taxi	Chop Slice and Mash	Shade and Shelter
Enrichment				
D&T Skills and Concepts	use their knowledge of existing products and their own experience to help generate their ideas			
	design products that have a purpose and are aimed at an intended user			
	explain how their products will look and work through talking and simple annotated drawings			
	plan and test ideas using templates and mock-ups			
	understand and follow simple design criteria			
	work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.			
	Planning			
	with support, follow a simple plan or recipe			
	select from a range of materials, textiles and components according to their characteristics;			
	Practical skills and techniques			
	learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;			
	use a range of materials and components			
	assemble, join and combine materials, components or ingredients;			
	cut, peel and grate ingredients			
	explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations			
	talk about their design ideas and what they are making;			

	evaluate their products and ideas against their simple design criteria;
	build simple structures, exploring how they can be made stronger, stiffer and more stable;
	talk about and start to understand the simple working characteristics of materials and components;
	explore and create products using mechanisms, such as wheels.
	understand that all food comes from plants or animals;
	understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why;
	use what they know about the Eatwell Guide to design and prepare dishes.

YEAR 2

YEAR 2	Autumn	Spring	Summer
Vocabulary	Fabric, brand, sewing, patterns, running stitch, embellishment	Structure, join, strength, components, apex roof, saw, sand, 3D box frame, walls, roof	Food source, preparation, cooked, raw, recipe
N.C. Coverage	Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talk, drawing and templates. Select from and use a range of tools and equipment to perform practical tasks **(food preparation equipment)** Select from and use a wide range of materials and components, including food ingredients, according to their characteristics. Explore and evaluate a range of existing products. **(textiles - fastenings and properties of materials)** Evaluate their ideas and products against design criteria. **Significant designer - Cath Kidson**	Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups. Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).**(woodworking and combined materials modelling)** Select from and use a wide range of materials and components, including construction materials, according to their characteristics. Build structures, exploring how they can be made stronger, stiffer and more stable.**(introduction to woodworking techniques and purposes)** Evaluate their ideas and products against design criteria.	Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Select from and use a range of tools and equipment to perform practical tasks (**for example, safety knives, graters, juicers)** Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
Enquiry Questions	Cut Stitch and Join	Beach Hut	Remarkable Recipes

Enrichment			
D&T Skills and Concepts	use their knowledge of existing products and their own experience to help generate their ideas		
	design products that have a purpose and are aimed at an intended user		
	explain how their products will look and work through talking and simple annotated drawings		
	plan and test ideas using templates and mock-ups		
	understand and follow simple design criteria		
	work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.		
	Planning		
	with support, follow a simple plan or recipe		
	begin to select from a range of hand tools and equipment, such as scissors, graters, safe knives, sewing needles		
	select from a range of materials, textiles and components according to their characteristics;		
	Practical skills and techniques		
	learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;		
	use a range of materials and components, including textiles and food ingredients;		
	with help, measure and mark out;		
	cut, shape and score materials with some accuracy;		
	assemble, join and combine materials, components or ingredients;		
	begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.		
	explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations;		
	explore what materials products are made from;		

	talk about their design ideas and what they are making;
	as they work, start to identify strengths and possible changes they might make to refine their existing design;
	evaluate their products and ideas against their simple design criteria;
	build simple structures, exploring how they can be made stronger, stiffer and more stable;
	talk about and start to understand the simple working characteristics of materials and components;
	understand that all food comes from plants or animals;
	understand that food has to be farmed, grown elsewhere (e.g. home) or caught;

YEAR 3

YEAR 3	Autumn	Spring	Summer
Vocabulary	Fruits and vegetables, carbohydrates, protein, dairy, dats, healthy, balanced diet, minerals, nutrients, vitamin, taco, fry, bake, roast, boil	Cam mechanism, automaton toys; Cutting, joining, strengthening and finishing, follower, mechanism, slides, levels, linkages, wheels and axles	greenhouse, designer, 3D frame, rigid, supported, stablem, strengthened, struts, butt joint,transparent, strong, lightweight, waterproof, flexible
N.C. Coverage	Develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **(Eatwell cafe)** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **(choosing own method of cooking/preparation)** Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **(Children's automaton toy using cam mechanism)** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand and use mechanical systems in their products **(cam mechanisms)**	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. Select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. **(woodworking alongside other media)** Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Investigate and analyse a range of existing products. Understand how key events and individuals in design and technology have helped shape the world. **Significant designers** **Joseph Paxton -Great Conservatory of Chatsworth House** **Nicholas Grimshaw - biomes of the Eden Project.** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Enquiry Questions	Cook Well Eat Well How can I cook a healthy and balanced meal?	Making It Move	Greenhouse
Enrichment			
D&T Skills and Concepts	identify the design features of their products that will appeal to intended customers;		
	use their knowledge of a broad range of existing products to help generate their ideas;		
	design innovative and appealing products that have a clear purpose and are aimed at a specific user;		
	explain how particular parts of their products work;		
	use annotated sketches and cross-sectional drawings to develop and communicate their ideas;		
	when designing, explore different initial ideas before coming up with a final design;		
	when planning, start to explain their choice of materials and components including function and aesthetics;		
	develop and follow simple design criteria;		
	Planning		
	with growing confidence, carefully select from a range of tools and equipment, explaining their choices;		
	select from a range of materials and components according to their functional properties and aesthetic qualities;		
	Practical skills and techniques		
	learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures;		
	use a wider range of materials and components, including construction materials and mechanical systems		
	with growing independence, measure and mark out to the nearest cm and millimetre;		
	cut, shape and score materials with some degree of accuracy;		
	assemble, join and combine material and components with some degree of accuracy;		
	explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose;		

	explore what materials/ingredients products are made from and suggest reasons for this
	consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product;
	evaluate their product against their original design criteria;
	evaluate the key designs of individuals in design and technology that have helped shape the world.
	understand that materials have both functional properties and aesthetic qualities;
	apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
	understand and demonstrate how mechanical systems have an input and output process;
	explain how mechanical systems create movement;
	use mechanical systems in their products.
	understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;
	with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;
	explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes;
	understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;
	prepare ingredients using appropriate cooking utensils;
	start to independently follow a recipe;

YEAR 4

YEAR 4	Autumn	Spring	Summer
Vocabulary	packaging, nutrition, fresh, damage, 3D nets, , storage,	natural, synthetic, fabric, design feature, purpose, function, appearance, quality, motif, pattern, Arts and Crafts movement, printing block, hem, running stitch, embellishment	strength, rigidity, smoothness, machines, mechanical systems, lever, cam, linkage, wheel, axel,
N.C. Coverage	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. Select from and use a wider range of materials and components, including construction materials and ingredients, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world. **Significant designer - Nicolas Apper** **(food packaging changes due to food distribution)** **Historical distribution and packaging - China** Apply their understanding of how to	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches and pattern pieces. Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. Select from and use a wider range of textile materials and components, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products. Understand how key events and individuals in design and technology have helped shape the world. **Significant designer - William Morris** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). **(Significant historical designs - Egyptian machines for tomb building)**

	strengthen, stiffen and reinforce more complex structures. **(3D nets)** Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.		
Enquiry Questions	Fresh Food Good Food	Functional and Fancy Fabrics	Tomb Builders
Enrichment			
D&T Skills and Concepts	identify the design features of their products that will appeal to intended customers;		
	use their knowledge of a broad range of existing products to help generate their ideas;		
	design innovative and appealing products that have a clear purpose and are aimed at a specific user;		
	explain how particular parts of their products work;		
	use annotated sketches and cross-sectional drawings to develop and communicate their ideas;		
	when designing, explore different initial ideas before coming up with a final design;		
	when planning, start to explain their choice of materials and components including function and aesthetics;		
	test ideas out through using prototypes;		
	develop and follow simple design criteria;		
	work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.		
	Planning		

	with growing confidence, carefully select from a range of tools and equipment, explaining their choices;
	select from a range of materials and components according to their functional properties and aesthetic qualities;
	place the main stages of making in a systematic order;
	Practical skills and techniques
	learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures;
	use a wider range of materials and components, including construction materials and kits, textiles and mechanical components;
	with growing independence, measure and mark out to the nearest cm and millimetre;
	cut, shape and score materials with some degree of accuracy;
	assemble, join and combine material and components with some degree of accuracy;
	demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product;
	join textiles with an appropriate sewing technique;
	begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming
	explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose;
	explore what materials/ingredients products are made from and suggest reasons for this
	consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product;
	evaluate their product against their original design criteria;
	evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.
	understand that materials have both functional properties and aesthetic qualities;
	apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;

	understand and demonstrate how mechanical systems have an input and output process;
	explain how mechanical systems such as levers and linkages create movement;
	use mechanical systems in their products.
	start to know when, where and how food is grown in the UK, Europe and the wider world;
	understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;
	with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;
	explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes;
	understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;
	prepare ingredients using appropriate cooking utensils;
	start to independently follow a recipe;
	start to understand seasonality.

YEAR 5

YEAR 5	Autumn	Spring	Summer
Vocabulary	actuator, analysis, compress, compressor, deflate, design criteria, force, gas, inflate, iterative, jack, lever, liquid, nozzle, particle, piston, plunger, pneumatic system, pneumatics, pressure, prototype, reservoir, solid, syringe, system, valve	Seasonality, harvest, dicing, peeling, grating, nutrition, consumer, healthy, balanced diet, sweet, savoury	
N.C. Coverage	Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). **(Focus - pneumatic systems combined with other structures)** Critique, evaluate and test their ideas and products and the work of others. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **(iterative design processes)**	Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. (**soup - peeling, dicing, grating)** Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world. **Significant historical architectural design periods** e.g. Classical (c850 BC–cAD 470), Gothic (1100–1500), Renaissance (1400–1600), Baroque (1600–1830) and Postmodern (1960–1990).

			Focus - Greek Architecture Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Enquiry Questions	Moving Mechanisms What is a pneumatic system and how is it useful?	Eat The Seasons What are the benefits of seasonal eating?	Architecture How has architecture changed over time?
Enrichment			
D&T Skills and Concepts	use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose		
	use their knowledge of a broad range of existing products to help generate their ideas;		
	design products that have a clear purpose		
	explain how particular parts of their products work;		
	use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas;		
	generate a range of design ideas and clearly communicate final designs;		
	work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.		
	Planning		
	independently plan by suggesting what to do next;		
	with growing confidence, select from a wide range of tools and equipment, explaining their choices;		
	select from a range of materials and components according to their functional properties and aesthetic qualities;		
	Practical skills and techniques		
	learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;		
	use a full range of materials and components, including mechanical components; cut a range of materials with precision and accuracy;		

	shape and score materials with precision and accuracy;
	assemble, join and combine materials and components with accuracy;
	refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.
	critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;
	evaluate their ideas and products against the original design criteria, making changes as needed.
	apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
	understand and demonstrate that mechanical systems have an input, process and output;
	explain how mechanical systems, such as pneumatics, create movement and use mechanical systems in their products;
	understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;
	understand that food is processed into ingredients that can be eaten or used in cooking;
	demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;
	demonstrate how to use a range of cooking techniques
	explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes;
	independently follow a recipe.

YEAR 6

YEAR 6	Autumn	Spring 1	Summer
Vocabulary	whole food, nutrients, homemade, convienience, additive, flavouring,organic, unprocessed, processed food, healthy, shelf life	abutment, aqueduct, arch, beam, beam bridge, bridge, compression, concertina, distort, engineer, support pier, suspension, truss, tension, truss bridge	bias binding, bunting, running/blanket/whip/tacking stitch, coupon, darn, fastening, rationing, recycle, utility
N.C. Coverage	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	Understand how key events and individuals in design and technology have helped shape the world. **(Significant bridge designs: the Menai Bridge, Clifton Suspension Bridge and Forth Bridge.)** Investigate and analyse a range of existing products. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **(iterative design process)**	Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products.

Enquiry Questions	Food for Life What are the benefits of homemade food?	Engineer What makes a structure stable?	Costume design for the end of year performance.
Enrichment			
D&T Skills and Concepts	use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market;		
	use their knowledge of a broad range of existing products to help generate their ideas;		
	design products that have a clear purpose		
	explain how particular parts of their products work;		
	use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas;		
	generate a range of design ideas and clearly communicate final designs;		
	work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.		
	Planning		
	independently plan by suggesting what to do next;		
	with growing confidence, select from a wide range of tools and equipment, explaining their choices;		
	select from a range of materials and components according to their functional properties and aesthetic qualities;		
	Practical skills and techniques		
	learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;		
	use a full range of materials and components, including construction materials and textiles and cut a range of materials with precision and accuracy;		
	shape and score materials with precision and accuracy;		
	assemble, join and combine materials and components with accuracy;		

	demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product;
	join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch;
	refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.
	complete detailed competitor analysis of other products on the market;
	critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;
	evaluate their ideas and products against the original design criteria, making changes as needed.
	apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
	understand that food is processed into ingredients that can be eaten or used in cooking;
	demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;
	demonstrate how to use a range of cooking techniques
	explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes;
	adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma;
	independently follow a recipe and measure ingredients accurately

Appendix 1