

Tall Oaks Academy Trust Progression Map for DT AUTUMN TERM

Year/Term		EVFS	1	2	3	4	5	6
National Curriculum			design functional products for themselves and other users based on design criteria communicate their ideas through talking, drawing, templates and mock-ups select from and use a range of tools safely and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] explore a range of existing products explore and use mechanisms [for example wheels and axles] in their products	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 safely and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 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 explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from	use 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, prototypes, 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 materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities investigate a range of existing products evaluate their ideas and products against their own design criteria understand how key events and individuals in design and technology have helped shape the world apply their understanding of how to strengthen, stiffen and reinforce more complex structures	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, prototypes, computer-aided design 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 evaluate their ideas and products against their own design criteria understand how key events and individuals in design and technology have helped shape the world apply their understanding of how to strengthen, stiffen and reinforce more complex structures	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 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 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 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] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	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 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 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 understand and apply the principles of a healthy and varied diet to prepare dishes 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
	Autumn	Prior Learning	Baseline completed within first two weeks.	<ul style="list-style-type: none"> Early experiences of working with paper and card to make simple flaps and hinges. Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. 	<ul style="list-style-type: none"> Know some ways to prepare ingredients safely and hygienically. Have some basic knowledge and understanding about healthy eating and The eatwell plate. Have used some equipment and utensils and prepared and combined ingredients to make a 	<ul style="list-style-type: none"> Explored and used mechanisms such as flaps, sliders and levers. Gained experience of basic cutting, joining and finishing techniques with paper and card. 	<ul style="list-style-type: none"> Experience of axles, axle holders and wheels that are fixed or free moving. Basic understanding of different types of movement. Experience of cutting and joining techniques with a range of materials including card, plastic and wood. An understanding of how to strengthen and stiffen structures. 	<ul style="list-style-type: none"> Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.
Curriculum Areas covered	Design	Explore different materials freely, to testing their ideas about how to use them and what to make Draw with increasing complexity and detail	<ul style="list-style-type: none"> Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through drawings and mock-ups with card and paper. 	<ul style="list-style-type: none"> Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. 	<ul style="list-style-type: none"> Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. 	<ul style="list-style-type: none"> Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. 	<ul style="list-style-type: none"> Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. 	
	Make	Join different materials and explore different textures Use a range of tools to create	<ul style="list-style-type: none"> Can explain how their design will fulfil a purpose by referring back to the brief (What is it? Who is it for? What should it do?). Plan by suggesting what to do next. Select and use tools, explaining their choices, to cut, shape and join paper and card. Use simple finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select from and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about sensory 	<ul style="list-style-type: none"> Order the main stages of making. Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. Select from and use finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. 	<ul style="list-style-type: none"> Write a step-by-step recipe, including a list of ingredients, equipment and utensils Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Make, decorate and present the food product appropriately for the intended user and purpose. 	
	Evaluate	Discuss preferences, likes/dislikes Discuss similarities and differences	<ul style="list-style-type: none"> Can use simple tools & equipment appropriately & safely for a specific purpose (cutting, joining). 	<ul style="list-style-type: none"> Explore a range of existing books and everyday products that use simple sliders and levers. Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. 	<ul style="list-style-type: none"> Can use a wider range of tools & equipment appropriately & safely for a specific purpose, with precision (measuring, transferring, marking, cutting). Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. 	<ul style="list-style-type: none"> Investigate and analyse books and, where available, other products with lever and linkage mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make. 	<ul style="list-style-type: none"> Compare the final product to the original design specification. Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Investigate famous manufacturing and engineering companies relevant to the project. 	<ul style="list-style-type: none"> Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. Understand how key chefs have influenced eating habits to promote varied and healthy diets.
	Technical Knowledge	Teach different techniques for joining materials	<ul style="list-style-type: none"> Can say whether a product meets its purpose "The trailer worked because the wheels were mounted & the box fitted" 	<ul style="list-style-type: none"> Can explain how their product meets or fails to meet a design brief 	<ul style="list-style-type: none"> Can evaluate the choices they made when designing a product (methods, techniques, materials etc) 	<ul style="list-style-type: none"> Using a specific design brief, evaluate a range of existing products & make conclusions about which would be the most successful! 	<ul style="list-style-type: none"> Evaluate the effectiveness of their own design plans - Can the design plans be easily followed? 	<ul style="list-style-type: none"> Can evaluate the success of a product against their own design brief & make appropriate suggestions of how to improve the product/design
	Technical Vocabulary	Cut, join, finishing, feed, trim, moving, design, make, produce, purpose, user, techniques, tools, templates, mark, cut, safe, stable, sturdy, product	<ul style="list-style-type: none"> Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Know and use relevant technical and sensory 	<ul style="list-style-type: none"> Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand that mechanical systems have an input, process and an output. Understand how cams can be used to produce different types of movement and change the direction of movement. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary. 	
					Measure, carbohydrate, fats, proteins, vitamins, minerals	Adhesive, scoring, components	Annotated drawings, exploded diagrams, mechanical, input, process, output, functionality, innovation, reinforce, prototype, precision	Scale, modify, allergy, intolerance, source, seasonality, knead, whisk, beat, roll-out

Tall Oaks Academy Trust Progression Map for DT SPRING TERM

Year/Form	EYFS	1	2	3	4	5	6	
National Curriculum		design functional products for themselves and other users based on design criteria communicate their ideas through talking, drawing, templates and mock-ups select from and use a range of tools safely and equipment to perform practical tasks [for example, cutting, shaping and joining] explore a range of existing products explore and use mechanisms [for example wheels and axles] in their products	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 safely and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 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 explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from	use 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, prototypes, 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 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 understand how key events and individuals in design and technology have helped shape the world apply their understanding of how to strengthen, stiffen and reinforce more complex structures	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, prototypes, computer-aided design 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 evaluate their ideas and products against their own design criteria understand how key events and individuals in design and technology have helped shape the world apply their understanding of how to strengthen, stiffen and reinforce more complex structures	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 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 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 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] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	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 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 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 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	
	Prior Learning	<ul style="list-style-type: none"> Assembled vehicles with moving wheels using construction kits. Explored moving vehicles through play. Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and gluing skills. 	<ul style="list-style-type: none"> Experience of using construction kits to build walls, towers and frameworks. Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. 	<ul style="list-style-type: none"> Explored simple mechanisms, such as sliders and levers, and simple structures. Learned how materials can be joined to allow movement. Joined and combined materials using simple tools and techniques. 	<ul style="list-style-type: none"> Experience of using different joining, cutting and finishing techniques with paper and card. A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science. 	<ul style="list-style-type: none"> Experience of aches, axle holders and wheels that are fixed or free moving techniques with paper and card. Basic understanding of electrical circuits, simple switches and components. Experience of cutting and joining techniques with a range of materials including card, plastic and wood. An understanding of how to strengthen and stiffen structures. 	<ul style="list-style-type: none"> Experience of basic stitching, joining textiles and finishing techniques. Basic understanding of electrical circuits, simple switches and components. Experience of cutting and joining techniques with a range of materials including card, plastic and wood. An understanding of how to strengthen and stiffen structures. 	
Spring	Design	<ul style="list-style-type: none"> Generate initial ideas and simple design criteria through talking and using own experiences. Develop and communicate ideas through drawings and mock-ups. 	<ul style="list-style-type: none"> Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings. 	<ul style="list-style-type: none"> Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. 	<ul style="list-style-type: none"> Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. 	<ul style="list-style-type: none"> Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. 	<ul style="list-style-type: none"> Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. 	
	Make	<ul style="list-style-type: none"> Join different materials and explore different textures Use a range of materials to construct Use a range of tools to create 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics Can use simple tools & equipment appropriately & safely for a specific purpose (planes, saws) 	<ul style="list-style-type: none"> Can explain how their design will fulfil a purpose by referring back to the brief (What is it? Who is it for? What material is it made of?) Plan by suggesting what to do next. Select and use tools, skills and techniques, explaining their choices. Select new and reclaimed materials and construction kits to build their structures. Use simple finishing techniques suitable for the structure they are creating. 	<ul style="list-style-type: none"> Order the main stages of making. Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. Select from and use finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> Create & follow a design brief from given information about the intended user. Order the main stages of making. Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. Explain their choice of materials according to functional properties and aesthetic qualities. Use finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. 	<ul style="list-style-type: none"> Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.
Curriculum Areas covered Skills / Knowledge	Evaluate	<ul style="list-style-type: none"> Return to and build on their previous learning, refining ideas and developing their ability to represent them. Discuss problems and how they might be solved. 	<ul style="list-style-type: none"> Explore and evaluate a range of products with wheels and axles. Evaluate their ideas throughout and their products against original criteria. 	<ul style="list-style-type: none"> Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. 	<ul style="list-style-type: none"> Investigate and analyse books, videos and products with pneumatic mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make. 	<ul style="list-style-type: none"> Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. Test and evaluate their own products against design criteria and the intended user and purpose. 	<ul style="list-style-type: none"> Compare the final product to the original design specification. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Investigate famous manufacturing and engineering companies relevant to the project. Evaluate the effectiveness of their own design plans – Can the design plans be easily followed? 	<ul style="list-style-type: none"> Investigate and analyse textile products linked to their final product. Compare the final product to the original design specification. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Can evaluate the success of a product against their own design brief & make appropriate suggestions of how to improve the product/design
	Technical Knowledge	<ul style="list-style-type: none"> Use different techniques for joining materials for different purposes 	<ul style="list-style-type: none"> The trailer worked because the wheels were fixed & not free to rotate Explore and use wheels, axles and axle holders Distinguish between fixed and freely moving axles Know and use technical vocabulary 	<ul style="list-style-type: none"> Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand and use pneumatic mechanisms. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Develop and use knowledge of how to construct strong, stiff shell structures Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3-D shapes. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate.
Technical vocabulary	<ul style="list-style-type: none"> Cut, join, finishing, fast, fit, moving, design, make, evaluate, popular, user, techniques, tools, templates, mock-up, suitable, quality, product 	<ul style="list-style-type: none"> Design criteria, design brief, function, base, structure, framework, details (& names), healthy, diet, balanced, ingredients 	<ul style="list-style-type: none"> Measure, carbohydrates, fats, proteins, vitamins, minerals 	<ul style="list-style-type: none"> Adhesive, scoring, components 	<ul style="list-style-type: none"> Annotated drawings, exploded diagrams, mechanical, input, process, output, functionality, innovation, reinforce, prototype, precision 	<ul style="list-style-type: none"> Scale, modify, allergy, intolerance, season, seasonally, knead, whisk, beat, roll-out 		

Tall Oaks Academy Trust Progression Map for DT SUMMER TERM

Year/Term	EYF5	1	2	3	4	5	6	
National Curriculum		<p>design functional products for themselves and other users based on design criteria</p> <p>communicate their ideas through talking, drawing, templates and mock-ups</p> <p>select from and use a range of tools safely and equipment to perform practical tasks (for example, cutting, shaping and joining)</p> <p>select from and use a range of existing products</p> <p>explore and use mechanisms (for example wheels and axles) in their products</p>	<p>design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>select from and use a range of tools safely and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)</p> <p>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products</p> <p>use the basic principles of a healthy and varied diet to prepare dishes</p> <p>understand where food comes from</p>	<p>use design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces</p> <p>select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately</p> <p>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 a range of existing products</p> <p>evaluate their ideas and products against their own design criteria</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, computer-aided design</p> <p>select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately</p> <p>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</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>understand and use mechanical systems in their products (for example, gears, pulleys, cams)</p> <p>understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors)</p>	<p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately</p> <p>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</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>understand and apply the principles of a healthy and varied diet (seasonally)</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p>	<p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately</p> <p>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</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>understand and apply the principles of a healthy and varied diet (seasonally)</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p>	
Summer	Prior Learning	<ul style="list-style-type: none"> Explored and used different fabrics. Cut and joined fabrics with simple techniques. Thought about the user and purpose of products. 	<ul style="list-style-type: none"> Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils. 	<ul style="list-style-type: none"> Have joined fabric in simple ways by gluing and stitching. Have used simple patterns and templates for marking out. Have evaluated a range of textile products. 	<ul style="list-style-type: none"> Experience of using different joining, cutting and finishing techniques with paper and card. A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in solution. Familiarity with general purpose software that can be used to 	<ul style="list-style-type: none"> Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials. Basic understanding of what structures are and how they can be made stronger, stiffer and more stable. 	<ul style="list-style-type: none"> Experience of stitching, joining and finishing techniques in textiles. Experience of making and using textiles pattern pieces. Experience of simple computer-aided design applications. 	
	Design	<ul style="list-style-type: none"> Develop their own ideas and then decide which materials to use to express them. Draw with increasing complexity and detail Create collaboratively, sharing ideas, resources and skills 	<ul style="list-style-type: none"> Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology 	<ul style="list-style-type: none"> Design appealing products for a particular user based on simple design criteria. Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. Communicate these ideas through talk and drawings. 	<ul style="list-style-type: none"> Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific users. Produce annotated sketches, prototypes, final product sketches and pattern pieces. 	<ul style="list-style-type: none"> Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas 	<ul style="list-style-type: none"> Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. 	<ul style="list-style-type: none"> Generate innovative ideas through research including surveys, interviews and questionnaires. Develop, model and communicate their ideas through talking, drawing, templates, mock-ups and prototypes including using computer-aided design. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.
	Make	<ul style="list-style-type: none"> Join different materials and explore different textures Use a range of tools to create 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics. 	<ul style="list-style-type: none"> Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. 	<ul style="list-style-type: none"> Plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. 	<ul style="list-style-type: none"> Plan the order of the main stages of making. Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. Explain their choice of materials according to functional properties and aesthetic characteristics. Use computer-generated finishing techniques suitable for the 	<ul style="list-style-type: none"> Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making. 	<ul style="list-style-type: none"> Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost and proceed.
	Skills / Knowledge	<ul style="list-style-type: none"> Return to and build on their previous learning, refining ideas and developing their ability to represent them. Explain why materials have been chosen Discuss problems and how they might be 	<ul style="list-style-type: none"> Can use simple tools & equipment appropriately & safely for a specific purpose (cutting, joining). Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria. 	<ul style="list-style-type: none"> Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Evaluate ideas and finished products against design criteria, including intended user and purpose. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product 	<ul style="list-style-type: none"> Can use a wider range of tools & equipment appropriately & safely for a specific purpose, with some accuracy (measuring, cutting, joining). Investigate a range of 3-D textile products relevant to the project. Test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product 	<ul style="list-style-type: none"> Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used. Test and evaluate their own products against design criteria and the intended user and purpose. 	<ul style="list-style-type: none"> Investigate and evaluate a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Research key events and individuals relevant to frame structures. 	<ul style="list-style-type: none"> Investigate and analyse textile products linked to their final product. Compare the final product to the original design specification. Test products with intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work.
	Technical Knowledge	<ul style="list-style-type: none"> Select appropriate joining technique for the product they are creating 	<ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling Explore different finishing techniques e.g. using paint, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary 	<ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The Eatwell plate. Know and use technical and sensory vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3-D shapes. Develop and use knowledge of how to construct strong, stiff shell structures. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate.
Technical vocabulary		<ul style="list-style-type: none"> Cut, join, finishing, fast, free, moving, design, make, realistic purpose, use, techniques, tools, templates, mark out, outline, quality, product 	<ul style="list-style-type: none"> Design criteria, design brief, function, base, structure, framework, utensils (kitchen), healthy, diet, balanced, ingredients 	<ul style="list-style-type: none"> Measure, carbohydrates, fats, proteins, vitamins, minerals 	<ul style="list-style-type: none"> Adhesive, scoring, components 	<ul style="list-style-type: none"> Annotated drawings, exploded diagrams, mechanical, input, process, output, functionality, innovation, reinforce, prototype, precision 	<ul style="list-style-type: none"> Scale, motif, allergy, intolerance, source, seasonally, knead, whisk, beat, roll-out, prototype, precision 	