



The Design and Technology Curriculum at Neroche

Through our carefully planned Design and Technology curriculum, where knowledge is built upon and learning progresses, pupils at Neroche are designers who use their creative skills and imagination to design and make products within real and meaningful contexts that allow for problem solving and innovation. DT is a discipline at Neroche that allows pupils to draw upon their wide range of knowledge and skills in other subjects such as science, maths, computing and art. Evaluation plays a key part in DT, therefore, it is at the heart of all units of learning. Our pupils are given the opportunity to evaluate products from the past and present, considering how design technology can be used to impact daily life and the wider world – how it has already changed our history and how it will change our future. Pupils evaluate their own designs and products, seeing design in school as a process of: evaluating others' designs and products; researching other people's needs and wants; sketching designs; constructing; and evaluating their own products. Design and Technology encompasses cooking and nutrition, and as part of their DT curriculum, pupils learn about the principles of healthy eating and nutrition. They learn how to cook meals for a healthy and balanced lifestyle in engaging ways that help instil a love of cooking and an understanding of the creativity of food technology.

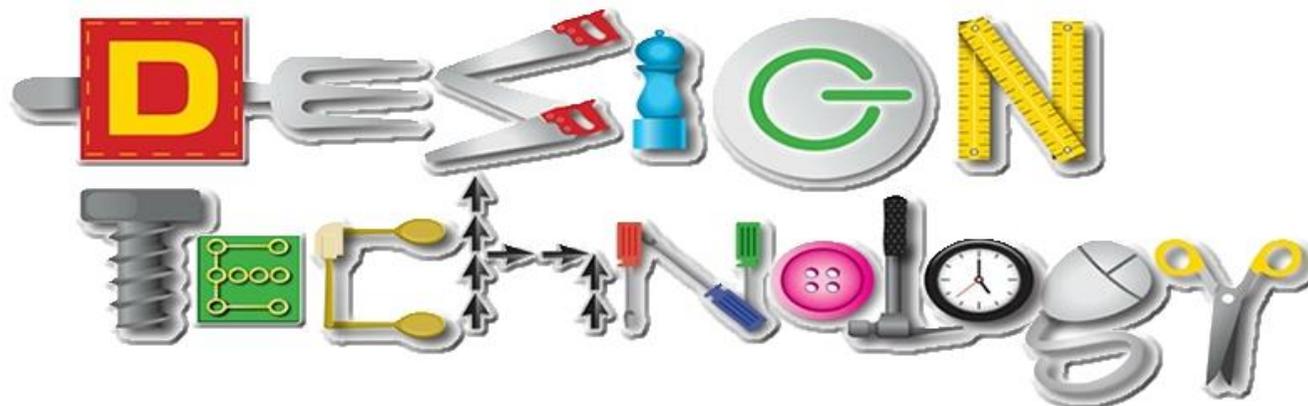


Table to show each year group and objectives and programme of study statement explaining the Intent.

EYFS						
<i>At this stage of learning is not necessarily a linear process. Children's interests are at the heart of learning in the EYFS, so these are the possible themes through which learning will take place.</i>						
Possible key learning emphasis to facilitate progression (alongside children's interests)	All about me/starting school New beginnings Harvest Autumnal changes People who help us	Festivals and Celebrations Diwali Bonfire night Remembrance Winter Christmas	Toys New Year Valentine's Day Pancake Day Superheroes Teddies Vehicles	Fantasy & Adventure (Storytelling) Signs of Spring Mothering Sunday Easter Superheroes Traditional tales	Science and investigation Growing plants Animals Insects Dinosaurs Changes	Places Seaside Summer Transition to Yr1 Food around the world Our environment
Expressive Art and Design						
KNOWLEDGE 2 year old curriculum	<ul style="list-style-type: none"> Experiments with ways to enclose a space, create shapes and represent actions, sounds and objects Enjoys and responds to playing with colour in a variety of ways, for example combining colours Uses 3D and 2D structures to explore materials and/or to express ideas Uses everyday materials to explore, understand and represent their world – their ideas, interests and fascinations 					
KNOWLEDGE 3 and 4 year old curriculum	Explore different materials freely, to develop their ideas about how to use them and what to make. Adult suggestions to support their developing ideas. Children to draw from their imagination and observations, using shapes and lines to express their thinking.	Develop their own ideas and then decide which materials to use to express them, with adult support to offer suggestions. Begin to create closed shapes to represent objects, with adult support and guidance, helping to add details	Join different materials with an understanding of how to secure them together without adult support. Independently create closed shapes with continuous lines and begin to use these shapes to represent objects. Spending sustained time on these activities with independence (although some adult support will still be required and appropriate for this stage). Draw with increasing complexity and detail, such as representing a face with a circle and including details. Use drawing to represent ideas like movement or loud noises. Show different emotions in their drawings and paintings, like happiness, sadness, fear, etc. Explore colour and colour mixing. Show different emotions in their drawings – happiness, sadness, fear, etc.			
KNOWLEDGE Reception curriculum	Experiment and build models using larger blocks/loose parts by stacking vertically and horizontally Say whether they enjoyed/disliked working with different tools and media Explore sculpture with a range of malleable materials Exploring construction materials independently and with adult support. Learn to work safely with a range of tools (e.g. hole-punch) Explore mixing materials (e.g. clay with sticks) Enjoy playing with a range of fabrics and textiles Decorate a piece of fabric Work from imagination	Experiment and build models using smaller blocks, to build a stable structure to express their ideas Say what they have done when working on their own artwork and constructions Use junk modelling materials in a planned way Comparing indirectly: children can then move on to using one thing to compare with two others, if, for example, asked to put things in order of height, weight or capacity. Explore relief printing in sand, clay and playdough Plan with an adult to use materials to then construct with more independence Arrange and glue materials to different background (e.g. fabric to wooden spoons to make characters)	Using their increasing knowledge, create models using materials, blocks and tools to create different types of structures in order to express their ideas Identify skills/concepts they found challenging and how they tried to overcome these Work in groups to make something, in order to allow for creative collaboration, sharing ideas, resources and skills. Plan and use construction materials and tools to use and create independently Make choices about the materials they use when constructing and creating artwork			

KNOWLEDGE Reception ELG	ELG: Expressive Arts and Design - 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.		
	Year 1		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Stable Structures	Seaside Snacks	Machines
Purpose / intent of the unit	To explore toy homes, thinking about their uses and purposes. To represent their own ideas for a toy dragon home through labelled drawings, talking about what they want to make, in relation to the set design brief and their research. To make a list and choose the materials and tools they will use, from a selection. To create a product, applying their knowledge of materials to make a structure stiffer.	To design a seaside picnic based on the basic principles of a healthy diet. To create a basic recipe, using drawings and labels.	To explore moving transport toys and how they work. To represent their own ideas for a vehicle through labelled drawings, talking about what they want to make, in relation to the set design brief and their research. To make a list and choose the materials and tools they will use, from a selection. To create a product, applying their knowledge of moving parts.
KNOWLEDGE National Curriculum coverage	Design 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 Make Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components according to their characteristics Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria Technical knowledge Explore and use of wheels and axis mechanisms in their products.	As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to... - Use the basic principles of a healthy and varied diet - To prepare dishes understand where food comes from.	Design 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 Make Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components according to their characteristics Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria Technical knowledge Explore and use of wheels and axis mechanisms in their products.
Outcome of the learning opportunity	To create a stable structure of a dragon home for the class pet dragon to live in, evaluating its use against the agreed design brief.	To design and prepare a healthy picnic for us to take on our trip to the seaside.	To make a toy vehicle with a moving part.
Specific vocabulary linked to the unit of learning	Cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, planning, investigating design, evaluate, make, user, purpose, ideas, product.	Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.	Planning, investigating design, evaluate, make, user, purpose, ideas, product, vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used
Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.			

Year 2

	Year 2		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Moving minibeasts	Delightful Decorations	Fantastic Food
Purpose / intent of the unit	To explore how different mechanisms produce different types of movement. To develop techniques in designing, cutting, joining, shaping, finishing and creating moving parts.	To explore, design and create a textile-based Christmas/winter decoration using a fabric material. To represent their own ideas in designs and products. To develop their techniques in joining 2 pieces of fabric together and explore finishing techniques.	To explore foods and dishes that are linked to traditional African dishes found in Kenya. To prepare dishes based on the principles of healthy eating.
KNOWLEDGE National Curriculum coverage	<u>Design</u> Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through drawing and templates <u>Make</u> Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components <u>Evaluate</u> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria <u>Technical knowledge</u> ♣ build structures, exploring how they can be made stronger, stiffer and more stable Explore and use levers and sliders in their products	<u>Design</u> 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 <u>Make</u> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting , shaping, joining and finishing] Select from and use a wide range of materials <u>Evaluate</u> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria <u>Technical knowledge</u> Build structures, exploring how they can be made stronger, stiffer and more stable	(linked to African culture) As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to... - Use the basic principles of a healthy and varied diet - To prepare dishes understand where food comes from.
Outcome of the learning opportunity	To create and evaluate a minibeasts with a moving part.	To create and evaluate a Christmas/winter decoration to sell and a Christmas fair/sale.	To make and evaluate a dish to serve their parents at an end of unit safari experience.
Specific vocabulary linked to the unit of learning	Investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used,	Investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish	Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.
Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.			

Year 3

	Year 3		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Packaging	Seasonal Food	Shadow Puppets
Purpose / intent of the unit	To research existing packaging and evaluate its use. To develop and use their knowledge of how to construct strong, stiff structures. To develop and use their knowledge of nets of cubes and cuboids to create a new form of packaging product.	To gain an understanding of British food that is available all year around and British food which is seasonal. To know how food is grown, produced and processed in Britain. To know how fish, meat and can vegetables form part of a healthy diet, considering people’s individual views.	Using their knowledge of light and shadows from their work in science, create shadow puppets with mechanisms that link and include levers. Be able to distinguish between loose and fixed pivots.
KNOWLEDGE National Curriculum coverage	<p><u>Design</u> 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 prototypes</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components</p> <p><u>Evaluate</u> 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</p> <p><u>Technical knowledge</u> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p> <p>Understand and apply the principles of a healthy and varied diet</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><u>Design</u> 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 prototypes</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components</p> <p><u>Evaluate</u> 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</p> <p><u>Technical knowledge</u> ♣ understand and use mechanical systems in their products: levers and linkages</p>
Outcome of the learning opportunity	To create and evaluate packaging made from recycled products.	To create a healthy, balanced meal using seasonal food from a market/supermarket.	Create shadow puppets with moving parts to create a shadow puppet play to perform to the children in preschool.
Specific vocabulary linked to the unit of learning	User, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing, shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision	Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.	User, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing, mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary
<p>Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.</p>			

Year 4

	Year 4		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Storybooks	Money Containers	South American Food
Purpose / intent of the unit	To explore existing products, evaluating and researching their use. To understand and use lever and linkage mechanisms, distinguishing between fixed and loose pivots.	To develop and use their knowledge of how to construct strong, stiff structures. To develop and use their knowledge of nets of cubes and cuboids to create a money container.	To know how to use appropriate equipment and utensils to prepare and combine food from another culture. To know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. To know and use relevant technical and sensory vocabulary appropriately.
KNOWLEDGE National Curriculum coverage	<p><u>Design</u> 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 prototypes</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks</p> <p><u>Evaluate</u> 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</p> <p><u>Technical knowledge</u> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p><u>Design</u> 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 computer-aided design</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks</p> <p>Select from and use a wider range of according to their functional properties and aesthetic qualities</p> <p><u>Evaluate</u> 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</p> <p>Understand how key individuals in design and technology have helped shape the world</p>	<p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p> <p>Understand and apply the principles of a healthy and varied diet</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>
Outcome of the learning opportunity	To create a storybook with a moving part/pop-out aspect.	To make a money container using recycled materials, following a design brief.	To create a healthy dish based on ingredients from a South American country.
Specific vocabulary linked to the unit of learning	Evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations, mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary.	Evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations, shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision,	Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.
<p>Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.</p>			

Year 5

	Year 5		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Funky Furnishings	Great British Dishes	Building Bridges
Purpose / intent of the unit	To investigate and analyse different furnishings. Explore different ways of joining fabric, developing sewing skills. Understand how fabrics can be strengthened, stiffened and reinforced where appropriate. To explore how to create fastenings.	Know how to use utensils and equipment including heat sources to prepare and cook food. Further understand about seasonality in relation to British food products and the source of different food products. To know how to plan and shop for a meal in order to plan and prepare an affordable meal.	Understand how to strengthen, stiffen and reinforce 3-D frameworks, including pillars and beams which are used to span gaps, and trusses which are used to strengthen bridges.
KNOWLEDGE National Curriculum coverage	<p><u>Design</u> 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, pattern pieces and computer-aided design</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities</p> <p><u>Evaluate</u> 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</p>	<p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p> <p>Understand and apply the principles of a healthy and varied diet</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><u>Design</u> 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</p> <p><u>Evaluate</u> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p><u>Technical Knowledge</u> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>
Outcome of the learning opportunity	To design and make a cushion cover with a fastening.	To research, plan, buy, prepare and cook a British dish that requires a heat source to make.	To create a model bridge for Year 1 to use in when playing with vehicles as part of their History learning about transport.
Specific vocabulary linked to the unit of learning	Seam, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, fastenings, design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.	Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype
<p>Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.</p>			

Year 6

	Year 6		
	Learning Opportunity 1	Learning Opportunity 2	Learning Opportunity 3
Unit of Learning	Burgers	Shelters	Fairgrounds
Purpose / intent of the unit	To know about the nutritional value of certain food types. Know how to use utensils and equipment including heat sources to prepare and cook food. To know how to plan and shop for a meal in order to plan and prepare an affordable, sustainably produced meal.	To investigate a range of shelters, considering and evaluating how materials and textiles are selected, joined and reinforced to make them stable and suitable.	Explore and evaluate a range of existing products. Linking with learning in science, investigate ways of using electrical motors to create rotating parts. Investigate stable structures with moving mechanisms. Draw upon research to design a model fairground ride with a moving element.
<u>KNOWLEDGE</u> National Curriculum coverage	<p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p> <p>Understand and apply the principles of a healthy and varied diet</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><u>Design</u> 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</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components according to their functional properties and aesthetic qualities</p> <p><u>Evaluate</u> 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 KS2 - apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p><u>Design</u> 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</p> <p><u>Make</u> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components</p> <p><u>Evaluate</u> 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</p> <p><u>Technical knowledge</u> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products Understand and use electrical systems in their products</p>
Outcome of the learning opportunity	Create burgers, including sauces and side dishes that are nutritionally valued and sustainably sources.	To design and make a prototype for a modern "air-raid" shelter, linking their learning to WW2.	To create a mini light-up fairground ride that has a moving part.
Specific vocabulary linked to the unit of learning	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.	Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, reed switch, toggle switch, push-to-make switch, push-to-break switch, tilt switch, bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, circuit	Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, reed switch, toggle switch, push-to-make switch, push-to-break switch, tilt switch, bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, circuit

Progression of Skills - Key DT skills will be taught and developed alongside the DT knowledge within these units of learning. The pre requisite skills needed for this each of learning need to be built upon and evident in planning. The progression of skills table at the bottom of this document demonstrates how these skills are built upon over time.

Knowledge and Skills Progression EYFS-Year 6.

EYFS	Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Characteristics of Effective Learning Show curiosity about objects, events and people Questions why things happen Engage in open-ended activity Thinking of ideas Find ways to solve problems / find new ways to do things / test their ideas Use senses to explore the world around them Create simple representations of events, people and objects Planning, making decisions about how to approach a task, solve a problem and reach a goal Checking how well their activities are going Changing strategy as needed Reviewing how well the approach worked</p>	<p>Designing (generating ideas)</p>	<p>Design appealing products for a particular user based on simple design criteria. Generate initial ideas and design criteria through own experiences. Develop and communicate these ideas through talk and drawings and mock ups where relevant.</p>	<p>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.</p>	<p>Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes, to develop and communicate ideas.</p>	<p>Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p>	<p>Generate innovative ideas through research including surveys, interviews and questionnaires and discussion with peers to develop a design brief and criteria for a design specification. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. and, where appropriate, computer-aided design</p>	<p>Use research using surveys, interviews, questionnaires and web-based resources. to develop a design specification for a range of functional products. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate and develop innovative ideas and share and clarify these through discussion. Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</p>
	<p>Making</p>	<p>Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely; marking out, cutting, joining and finishing; cut, shape and join paper and card. Select from a range of ingredients and materials according to their characteristics to create a chosen product.</p>	<p>Plan by suggesting what to do next. Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices. Select new and materials, components, reclaimed materials and construction kits to build and create their products. Use simple finishing techniques suitable for the products they are creating.</p>	<p>Plan the main stages of making. Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product. Select from and use finishing techniques suitable for the product they are creating</p>	<p>Order the main stages of making. Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products. Explain their choice of materials according to functional properties and aesthetic qualities. Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties.</p>	<p>Produce detailed lists of equipment and fabrics relevant to their tasks Write a step-by-step plan, including a list of resources required. Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources.</p>	<p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products. Use finishing and decorative techniques suitable for the product they are designing and making</p>
	<p>Evaluating</p>	<p>Taste, explore and evaluate a range of products to determine the intended user's</p>	<p>Explore a range of existing products related to their design criteria. Evaluate their product by discussing how well it</p>	<p>Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project.</p>	<p>Investigate and evaluate a range of products including the ingredients, materials, components</p>	<p>Investigate and analyse products linked to their final product. Compare the final product to the original</p>	<p>Continually evaluate and modify the working features of the product to match the initial design specification.</p>

		preferences for the product Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose.	works in relation to the purpose, the user and whether it meets the original design criteria.	Test their product against the original design criteria and with the intended user. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	and techniques that are used. Test and evaluate their own products against design criteria and the intended user and purpose. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.	design specification and record the evaluations. 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	Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Test the system to demonstrate its effectiveness for the intended user and purpose.
<p>ELG: Expressive Arts and Design - Creating with Materials</p> <p>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.</p>	Knowledge	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Food	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. Know and use technical and sensory vocabulary relevant to the project.		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 vocabulary appropriately		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.	
	Structures	Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project.		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 3D shapes. Know and use technical vocabulary relevant to the project.		Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.	
	Textiles	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 Know and use technical vocabulary relevant to the project.		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.		Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforced where appropriate. Know and use technical vocabulary relevant to the project.	
	Mechanisms	Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project.		Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project.		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.	
	Electrical systems			Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products. Know and use technical vocabulary relevant to the project.		Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.	

DT Vocabulary/Terminology EYFS – Year 6

EYFS	<p>Expressive arts and design - Colour, paint, sello-tape, glue stick, glue, cut, join, together, link, build, pinch, hold, grab, making, inventing, moulding, rolling/roll, flattening/flatten, squeeze, tape, tearing, ripping, stretch, pulling, pressing, playdough, clay, Physical development – cooking, cook, healthy, fruit, vegetables, knife, fork, eat, chop, cut, whisk, oven, hot, cold, warm, sprinkle, slice, blend, melt, spoon, scales, weigh, bowl, mix, stir, crumble, grate, knead, pour, hob, sift, hold, grab</p>				
	Textiles	Electrical systems	Mechanisms	Structures	Food
KS1	Pattern, mark out, decorate, running stitch, needle, fabric, template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam		Mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull, push, down, straight, work, Wheel, axel, fixed, free, design, joining, hacksaw, vice, dowel, body, cab, shaping, fold, fix, weak, strong	Measure, design, cut,, join, corners, layer, manipulate, roll, drawing tools, equipment, flexible, product, idea, design, evaluate, purpose, structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder	Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients,
Year 3	Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded	User, fault, toggle switch, insulator, conductor, battery holder, crocodile clip	Loose pivot, fixed pivot, system, input, process	Shell, structure, net, marking out, material, joining, three dimensional, stiff	Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet
Year 4	Aesthetics, seam allowance, pinning, embroidery, back stitch, blanket stitch, cross stitch	Series circuit, connection, push-to make switch, push-to-break switch, innovative, appealing, control box, input device, output device, system	Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating	ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble
Year 5	Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye	Parallel circuit, light emitting diode, monitor, flowchart, design specification, reed switch, tilt switch	Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality	Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	
Year 6	Applique, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch	Light dependent resistor, interface control, micro switch, latching switch	Transmit, annotated drawings, exploded diagrams, functionality	Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	