



Wessex Learning Trust



East Brent Church of England
Academy

We Learn Together

Design Technology Curriculum Documents





Intent:

At East Brent CofE Academy, we want to build a design and technology curriculum which develops learning and results in the acquisition of knowledge and skills. Children will remember more, understand more and be able to use more skills. To create a design and technology curriculum with appropriate subject knowledge, skills and understanding as set out in the National Curriculum Design Technology Programmes of study. To fulfil the duties of the National Curriculum whereby schools must provide a balanced and broadly-based curriculum which promotes the spiritual, moral, cultural, mental and physical development of pupils and prepares them for the opportunities and responsibilities and experiences for later life.

Through Design and Technology we give our children experiences that link to the outside world and our inquiry curriculum.

We want our children to:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently.
- Build on their knowledge, understanding and skills to design and make products for a wide range of users.
- Be able to evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook simple, healthy food.

Implementation:

Clear and comprehensive scheme of work in line with the National Curriculum. Teaching and Learning should show progression across all key stages within design and technology. The Design Technology National Curriculum and EYFS is planned for and covered in full across the school. Whilst the EYFS and National Curriculum forms the foundation of our curriculum, we make sure that children learn additional skills, knowledge and understanding and enhance our curriculum as and when necessary. Design and Technology is implemented through well thought out planning. We make our Design and Technology lessons relevant by linking them to our inquiry curriculum.



Design and technology specialist language will be taught within design and technology lessons across the school, and modelled by teachers in all DT lessons. The promotion and use of an accurate and rich vocabulary throughout school is planned into the curriculum. In design technology children may well be asked to solve problems and develop their learning independently. They will individually evaluate DT work to ensure that their learning is personalised. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology.

Impact:

Children will have clear enjoyment and confidence in Design and Technology that they will then be able to apply to other areas of the curriculum. Through carefully planned and implemented learning activities the pupils develop creative, technical and practical expertise needed to perform everyday tasks confidently and successfully. The children will develop an enthusiasm for developing and making their own products whilst also being able to critically evaluate and improve their designs. The children will develop basic food and hygiene skills alongside being able to talk about healthy eating and make simple healthy nutritious meals. As designers, children will develop skills and attributes they can use beyond East Brent and into the next step of their education.



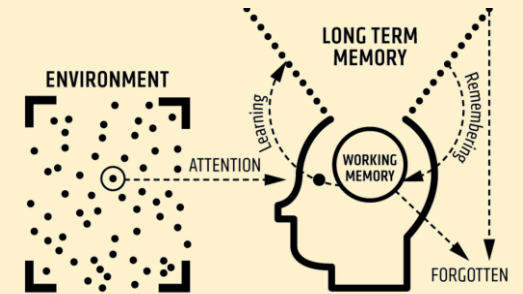
Wessex Learning Trust Principles

Strategic Aims

The Principles codify the shared language that contribute to high-quality, adaptive teaching and inclusion for all. Used routinely to bring the curriculum to life, the pedagogical principles support learning and progress over time. The Wessex Principles are not a linear planning tool, an expectation for every lesson or mandate a formulaic approach to lessons

The principles aim to:

- Reduce cognitive load
- Encourage self regulation
- Provide regular opportunities to identify misconceptions or gaps in learning
- Ensure teaching is adapted to need
- Make learning explicit and transferable across the curriculum, beyond school into the wider community and wider world



Ready To Learn
Routines



Linking Prior +
New Learning



Focused
Instruction 'I Do'



Practise
Learning 'We Do'









Learning Check
'You Do'



Consolidating
Learning

- ★ Subject pedagogies are key ingredients to adaptive teaching, alongside effective formative and summative feedback to monitor progress.
- ★ Disciplinary and substantive learning is integral to any planned sequence of learning.



<h2>Ready To Learn Routines</h2>		<p>Ref SLC</p> <ul style="list-style-type: none"> - Emotional learning environment - physical learning environment 	<p>Learning environments are safe, inclusive and welcoming. Relationships are positive and love of learning is promoted. Everyone feels safe to take risks and explore learning without judgement. Praise and rewarding effort is used to motivate and engage. A sense of pace and challenge is established from the start of the lesson.</p>
<h2>Linking Prior + New Learning</h2>		<p>Ref SLC</p> <ul style="list-style-type: none"> - Pace of talk, clarity of instruction 	<p>Prior learning is checked and revisited to strengthen connections and longer-term memory. Know more, remember more. Planning ensures new learning builds on prior learning. Vocabulary is explicitly taught using the schools agreed pedagogies so that words are understood, contextualized and barriers to learning are reduced. Problem solving and number skills are revisited, retaught and applied in unfamiliar contexts to support deeper learning. Gaps in learning and misconceptions are revisited, including feedback and improvement tasks. Planning is adapted lesson on lesson so that core skills and knowledge are retaught where necessary. Precision learning is explained so that skills and knowledge are well understood, and misconceptions are minimised.</p>
<h2>Focused Instruction 'I Do'</h2>		<p>Ref SLC</p> <ul style="list-style-type: none"> - Explicit teaching of vocabulary - Explicit teaching of listening 	<p>The steps to new learning are broken down into manageable amounts and reduce cognitive load. High-quality explanations are used to model thinking, decision making, and application of knowledge. Self-regulation is taught through decision making modelled, visible and explicit. Approaches to getting unstuck are taught and accepted as part of learning. Practical skills and strategies are modelled so that there is a clear understanding of how to solve problems solve and minimize misconceptions. Deeper learning is sequenced so that all learners can understand each developing stage. Learners know what excellent learning looks like and have success criteria to support their independent work.</p>
<h2>Practise Learning 'We Do'</h2>		<p>Ref SLC</p> <ul style="list-style-type: none"> - Explicit teaching paired, small group talk 	<p>Guided practice and worked examples are used to link new learning and decision making with prior learning. Formative assessment, including rich questioning, is used skilfully to check understanding and the impact of planned learning. Peer explanation + modelling scaffolds and prepares for independent practice. Learners use expert thinking and talking to explore deeper learning. Scaffolding and support (including TAs) is in place to develop and build independence.</p>
<h2>Learning Check 'You Do'</h2>			<p>Skills and knowledge are explored using a variety of contexts. Independent practice and application of learning (including homework) builds confidence, self esteem and motivation. Metacognition and self-regulation are developed over time. Learning is consolidated. Scaffolding and support is reduced and removed over time. Feedback is used to deepen learning and address misconceptions.</p>
<h2>Consolidating Learning</h2>			<p>Learner's plan, review and evaluate their progress reflecting on what excellent learning looks like and success criteria. Next steps are identified and used to inform teacher planning and develop mastery approaches over time. Learning skills continue. <i>Next lessons, rest of day, community, wider world.</i></p>



National Curriculum and EYFS Framework

Substantive Knowledge *Learning about...*

- Theoretical knowledge of the strands of DT - 'mechanical systems', 'electrical systems', 'structures', 'textiles' and 'cooking and nutrition'

Disciplinary Knowledge *learning how to...*

- Practical knowledge of skills and techniques within the DT strands of 'mechanical systems', 'electrical systems', 'structures', 'textiles' and 'cooking and nutrition'
- DT technical vocabulary

Procedural Knowledge *Learning through...*

Investigate

Investigate and analyse existing products. Key events and individuals from the world of DT.



Design

Design innovative, functional, appealing products



Make

Construct using tools, equipment, materials and components



Evaluate

Evaluate and improve designs



National Curriculum Programmes of Study and EYFS Framework

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Development Matters 4-5 Years: ELG Expressive arts and design: <i>Creating with materials ‘...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.’</i></p>	<p>Design</p> <ul style="list-style-type: none"> • 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 <p>Make</p> <ul style="list-style-type: none"> • 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, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> • build structures, exploring how they can be made stronger, stiffer and more stable • explore and use mechanisms, in their products <p>Cooking & Nutrition</p> <ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from 		<p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • 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 construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> • 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 <p>Technological Knowledge</p> <ul style="list-style-type: none"> • 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 • apply their understanding of computing to programme, monitor and control their products. <p>Cooking & Nutrition</p> <ul style="list-style-type: none"> • understand and apply the principles of a healthy and varied diet • cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied • become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes] • understand the source, seasonality and characteristics of a broad range of ingredients 			



Substantive Knowledge *Learning about...(Knowledge)*

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles		<ul style="list-style-type: none"> A running stitch can be used to join two pieces of fabric together. A template (or fabric pattern) is used to cut out the same shape multiple time. 		<ul style="list-style-type: none"> A cross-stitch is stronger than a running stitch because it works in different directions. Applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces. When two edges of fabric have been joined together it is called a seam. It is important to leave space on the fabric for the seam. Some products are turned inside out after sewing so the stitching is hidden. 		<ul style="list-style-type: none"> The blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. The back stitch is a strong stitch and also be used for decoration. Small, neat stitches which are pulled taut are important, including when creating seams. Using a template (or clothing pattern) helps to accurately mark out a design on fabric. 	
Cooking and Nutrition	<ul style="list-style-type: none"> All food comes from plants or animals. The names of key, basic foodstuffs; some foods are healthy and some are unhealthy. Everyone should eat at least five portions of fruit and vegetables every day. 	<ul style="list-style-type: none"> All food comes from plants or animals, and that food has to be farmed, grown elsewhere (e.g. home) or caught. The names and groups of some foods, according to the Eatwell Plate. Everyone should eat at least five portions of fruit and vegetables every day. There are 'hidden sugars'. There is nutritional information on a drinks containers. 		<ul style="list-style-type: none"> Food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. A healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate. To be active and healthy, food and drink are needed to provide energy for the body 		<ul style="list-style-type: none"> Different food and drink contain different substances – nutrients, water and fibre – that are needed for health, and make comparisons between different foodstuffs. About nutritional labelling on food packets and make comparisons. Recipes can be adapted to change the appearance, taste, texture and aroma. 	
Mechanical Systems/Electrical Systems		<ul style="list-style-type: none"> A mechanism is the parts of an object that move together. A slider mechanism moves an object in a straight line. A rotary mechanism moves an object in a curved way. Wheels need to be round to rotate and move. For a wheel to move it must be attached to a rotating axle. An axle moves within an axle holder which is fixed to the vehicle or toy. 		<ul style="list-style-type: none"> Air can be used to create mechanisms and these are called pneumatic systems. A pneumatic system can force air across a distance to make a mechanism work. A cam turns a turning motion into a linear motion. Different shape cams create different movements. Inputs are motions that start mechanisms and outputs are the resultant motions. 		<ul style="list-style-type: none"> Inputs are motions that start mechanisms and outputs are the resultant motions. Different mechanisms control movement in different ways. Rotary motion is a circular path in one direction Reciprocating motion is back and forwards in a straight line. Oscillating motion is in a circular path, first one way then the other. Electric circuits can be incorporated into products. 	
Structures	<ul style="list-style-type: none"> Structures need to be strong. 	<ul style="list-style-type: none"> Structures need to be strong and stable. Roofs need to be waterproof. Windows need to be transparent. Structures with a wide base are stable. Cylinders and corrugated shapes make strong structures. Hinges allow parts of a structure to open and close. 		<ul style="list-style-type: none"> Sheets within structures can be strengthened by folding and shaping, corrugating, ribbing and laminating. Structures with a square or rectangular base are strong and stable. Structures with diagonal struts are strong and stable. Pavilions are a type of temporary or permanent enclosure. 		<ul style="list-style-type: none"> There are beam, arch and truss bridges. Arches increase the strength of bridges. Truss bridges use triangles to strengthen beams. 	



Disciplinary Knowledge Learning how to...(Skills)

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Practical skills and techniques	<ul style="list-style-type: none"> Use a small range of materials such as textiles and food ingredients. 	<ul style="list-style-type: none"> Use a small range of materials and components, such as construction kits, textiles, food ingredients and mechanical components. 		<ul style="list-style-type: none"> Begin to use a wider range of materials and components than KS1, such as construction materials and kits, textiles, wood, food ingredients, mechanical and electric components. 		<ul style="list-style-type: none"> Use a wide range of materials and components, such as construction materials and kits, textiles, wood, food ingredients, mechanical and electric components. 	
Textiles	<ul style="list-style-type: none"> With support, decorate fabrics with attached items - e.g. buttons, beads, sequins, braids, ribbons. 	<ul style="list-style-type: none"> Measure, mark out, cut and shape materials/components, including cutting fabric from a template. Assemble, join and combine materials and component using a range of methods – e.g. masking tape, glue, staples, running stitch. With support, decorate fabrics with attached items - e.g. buttons, beads, sequins, braids, ribbons. 		<ul style="list-style-type: none"> Measure, mark out, cut, shape and score materials/components with some accuracy. Assemble, join and combine materials and components with some accuracy, using a range of methods - e.g. masking tape, glue, staples, running stitch, cross-stitch, applique. Sew on buttons and make loops. 		<ul style="list-style-type: none"> Measure, mark out, cut, shape and score materials and components to the nearest 1mm. Accurately assemble, join and combine materials and components, using a range of methods - e.g. masking tape, glue, staples, running stitch, back stitch, blanket stitch, applique glue gun and modelling wire. Decorate textiles appropriately (often before joining components). 	
Cooking and Nutrition	<ul style="list-style-type: none"> Begin to understand how to prepare simple dishes, without a heat source. Begin to develop food vocabulary using taste, smell, texture and feel. <p>Mix/Stir</p> <ul style="list-style-type: none"> Loosely combine ingredients. Mash ingredients together using a fork. <p>Spoon</p> <ul style="list-style-type: none"> Spoon ingredients between containers. <p>Measure</p> <ul style="list-style-type: none"> Begin to measure and weigh food items, using non-standard measures e.g. spoons, cups. Count ingredients. <p>Tearing and Snipping</p> <ul style="list-style-type: none"> Tear fresh herbs <p>Cutting</p> <ul style="list-style-type: none"> Cut soft foods with butter knife, e.g. banana, canned peach slices. <p>Following</p> <ul style="list-style-type: none"> Follow simple instructions given by an adult. 	<ul style="list-style-type: none"> With support, know how to prepare simple dishes safely and hygienically, without using a heat source. Taste test food combinations. Develop food vocabulary using taste, smell, texture and feel. <p>Mix/Stir</p> <ul style="list-style-type: none"> Combine ingredients with increasing thoroughness. Spoon Spoon ingredients into different containers with increasing accuracy and minimal spillage. <p>Measure</p> <ul style="list-style-type: none"> Measure and weigh food items, using non-standard measures e.g. spoons, cups, and standard measures, in accordance with the KS1 NC for Maths. <p>Grating</p> <ul style="list-style-type: none"> Grate soft foods - e.g. cheese, cucumber <p>Tearing and Snipping</p> <ul style="list-style-type: none"> Snip fresh herbs or spring onion. <p>Threading</p> <ul style="list-style-type: none"> Thread soft foods onto kebab sticks or cocktail sticks - e.g. soft fruits <p>Cutting</p> <ul style="list-style-type: none"> Cut low resistance foods with a table knife into equal size pieces/slices - e.g. canned pineapple slices, sticks of pepper, mushrooms. Use a fork to secure foods. <p>Following</p> <ul style="list-style-type: none"> Follow a simple recipe supported by an adult. 		<ul style="list-style-type: none"> Begin to know how to prepare and cook safely and hygienically including, where appropriate, the use of a heat source. Develop sensory vocabulary/knowledge using, smell, taste, texture and feel. <p>Mix/Stir</p> <ul style="list-style-type: none"> Combine any ingredients thoroughly. Whisk foods using a hand whisk. <p>Spoon</p> <ul style="list-style-type: none"> Use two spoons to transfer ingredients into different size/shape containers with minimal spillage - e.g. liquid foods into baking cases. <p>Measure</p> <ul style="list-style-type: none"> Weigh and measure using scales and standard measures, in accordance with the Year 3/4 NC for Maths – e.g. measuring jugs and digital scales. <p>Grating</p> <ul style="list-style-type: none"> Grate firmer foods - e.g. carrots, apples. <p>Tearing and Snipping</p> <ul style="list-style-type: none"> Tear and shred with greater dexterity – e.g. shredding lettuce. <p>Threading</p> <ul style="list-style-type: none"> Thread medium-resistance foods onto kebab sticks -e.g. courgettes. <p>Cutting</p> <ul style="list-style-type: none"> Cut medium resistance foods with a vegetable knife - e.g. cucumber. Use a fork or the claw grip to secure foods. Cut medium resistance or partly prepared foods using a bridge hold - e.g. cut half a tomato into a quarter, halve canned potatoes, halve large grapes. <p>Following</p> <ul style="list-style-type: none"> Follow a simple recipe with guidance from an adult and adapt it as needed 	<ul style="list-style-type: none"> Know how to prepare and cook and hygienically including, where appropriate, the use of a heat source. Develop sensory vocabulary/knowledge using, smell, taste, texture and feel <p>Mix/Stir</p> <ul style="list-style-type: none"> Fold ingredients together carefully. Whisk foods using a hand whisk. <p>Spoon</p> <ul style="list-style-type: none"> Gauge the quantities spooned to ensure an equal amount of ingredient in each container. <p>Measure</p> <ul style="list-style-type: none"> Weigh and measure using scales with increasing accuracy, in accordance with the Year 5/6 NC for Maths – e.g. – e.g. measuring jugs and digital/analogue scales. <p>Grating</p> <ul style="list-style-type: none"> Grate independently, and use the other parts of a grater (e.g. zesting) as needed. <p>Tearing and Snipping</p> <ul style="list-style-type: none"> Tear and shred with greater dexterity – e.g. shredding lettuce. <p>Threading</p> <ul style="list-style-type: none"> Thread high-resistance foods onto kebab sticks – e.g. onions, peppers. <p>Cutting</p> <ul style="list-style-type: none"> Cut higher resistance foods with a vegetable knife, using the claw grip - e.g. celery, carrots. Cut higher resistant foods from whole using the bridge hold - e.g. halve an apple, raw potato. <p>Following</p> <ul style="list-style-type: none"> Follow and modify a simple recipe independently 		
Mechanical Systems/Electrical Systems	<ul style="list-style-type: none"> Cut and shape materials With support, assemble, join and combine materials using a range of methods – e.g. masking tape, glue, staples 	<ul style="list-style-type: none"> Assemble, join and combine materials to make simple mechanisms using masking tape, glue and split pins. Assemble, join and combine materials/ to make simple wheels and axles and pulleys. 		<ul style="list-style-type: none"> Assemble, join and combine materials and components to make simple pneumatic systems. Assemble, join and combine materials and components to make simple cam mechanisms. 		<ul style="list-style-type: none"> Assemble, join and combine materials and components to make a range of different mechanisms. Use layers and spacers to hide mechanisms. Incorporate a circuit into a product base. 	
Structures	<ul style="list-style-type: none"> Explore how to make structures stronger. 	<ul style="list-style-type: none"> Assemble, join and combine materials to make strong and stable structures. Assemble, join and combine materials to make simple hinges . 		<ul style="list-style-type: none"> Assemble, join & combine paper to strengthen structures – e.g. folding and shaping, corrugating, ribbing, laminating. Join structural beams to create strong and stable structures. Add diagonal struts to increase stability. Create a free-standing structure. Create different textured cladding effects. 		<ul style="list-style-type: none"> Assemble, join & combine paper to strengthen bridges – e.g. folding and shaping, corrugating, ribbing, laminating, arching. Strengthen bridges with triangular trusses. Measure, mark out and cut wood safely using a tenon saw. 	



Procedural Knowledge

Learning through...(Understanding/Application)

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding contexts and users and purposes	<ul style="list-style-type: none"> Work within a small range of familiar contexts, such as imaginary, story-based, home, school, gardens, playgrounds and the local community. Begin to state what products they're designing & making, who they are for, how they work. 	<ul style="list-style-type: none"> Work within a small range of familiar contexts, such as imaginary, story-based, home, school, gardens, playgrounds and the local community. State what products they are designing and making, who they are for, how they work, and how they will make them suitable. Develop design criteria with support. 	<ul style="list-style-type: none"> Work within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. Begin to describe the purpose of their products and their design features, explaining how particular parts of their products work. Begin to gather information about the needs/ wants of individuals and groups, and develop their own design criteria. 	<ul style="list-style-type: none"> Work confidently and independently within a broad range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. Describe the purpose of their products and their design features, explaining in detail how particular parts of their products work. Gather information about the needs and wants of particular individuals and groups, develop their own design criteria and use these to inform their ideas. 			
Investigating	<ul style="list-style-type: none"> Explore: <ul style="list-style-type: none"> what products are who/what products are for how products work where products are used what materials are used what they like and dislike about products 	<ul style="list-style-type: none"> Explore: <ul style="list-style-type: none"> what products are who products are for what products are for how products work where products are used what materials products are made from what they like and dislike about products 	<ul style="list-style-type: none"> Begin to investigate and analyse: <ul style="list-style-type: none"> how well products have been designed and made why materials have been chosen how well products work and achieve their purposes how well products meet user needs and wants who designed and made the products whether products can be recycled or reused inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 	<ul style="list-style-type: none"> Investigate and analyse: <ul style="list-style-type: none"> how well products have been designed and made why materials have been chosen how well products work and achieve their purposes how well products meet user needs and wants who designed and made the products how much products cost to make how innovative products are how sustainable the materials in products are what impact products have beyond intended purpose inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products 			
Designing: Generating, developing, modelling and communicating ideas	<ul style="list-style-type: none"> Explore simple ideas. Develop and communicate ideas by talking and drawing. Begin to model ideas by exploring materials. 	<ul style="list-style-type: none"> Generate ideas by drawing on their own experiences and knowledge of existing products. Develop and communicate ideas by talking and drawing, including labelling parts. Model ideas by exploring materials, components & construction kits. With support, use ICT to develop and communicate ideas. 	<ul style="list-style-type: none"> Generate realistic ideas, focusing on the needs of the user. Begin to share and clarify ideas through discussion, and use annotated sketches and labelled drawings from different viewpoints to develop and communicate their ideas. Begin to model their ideas using prototypes. Use information and communication technology, where appropriate, to develop and communicate their ideas. 	<ul style="list-style-type: none"> Generate realistic ideas, focusing on the needs of the user and drawing on research. Share and clarify ideas through discussion. Use annotated sketches, cross-sectional and perspective drawings and exploded diagrams to develop and communicate their ideas. Model their ideas using prototypes. Use CAD to develop and communicate their ideas. 			
Designing: Planning	<ul style="list-style-type: none"> Select from a range of tools, equipment and materials. 	<ul style="list-style-type: none"> Select from a range of tools and equipment. Select from a range of materials and components according to their characteristics. 	<ul style="list-style-type: none"> Select tools and equipment suitable for the task. Select materials and components suitable for the task. Plan and order the stages of making. 	<ul style="list-style-type: none"> Select tools and equipment suitable for the task, explaining their choice in relation to the skills/techniques used. Select suitable materials/components, explaining choices according to functional and aesthetic qualities. Produce appropriate lists of tools, equipment and materials that they need and formulate step-by-step plans. 			
Making	<ul style="list-style-type: none"> Make a simple product with support. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene. Follow a simple plan to make a product, following design criteria with support. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene. Follow design criteria to create a product. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene. Follow design criteria to create a product. 			
Evaluating: Own products		<ul style="list-style-type: none"> Evaluate a finished product against design criteria, explaining likes and dislikes. 	<ul style="list-style-type: none"> Evaluate an end product against own design criteria, consider the views of others, and think of ways to improve the design. Evaluate their ideas and products against their original design specification, and begin to think about the needs of the user. 	<ul style="list-style-type: none"> Reflect on their work continually throughout the design, make and evaluate. Evaluate their ideas and products against their original design specification, thinking about the needs of the user. 			
Tier 2 Vocabulary		<ul style="list-style-type: none"> Design, Make, measure, weigh, test, plan, join, cut, shape, 			<ul style="list-style-type: none"> Evaluate, sequence, justify, explain, accuracy 		
Tier 3 Vocabulary		<ul style="list-style-type: none"> Sew, scissors, cardboard, materials, paper, fabric, wood, metal, plastic, ingredients, hygiene, safety, peel, grate, structure, design criteria, product, decoration 			<ul style="list-style-type: none"> Fit for purpose, target market, customer stitch, saw, sand, template, pattern, electronics, mechanisms, circuits, stiff, mouldable, joints, utensils, cook, bake, recipe, names of wood, fabric, ingredients, metal, plastic etc. 		



Long Term Plan

	EYFS	Year 1	Year 2	Year 3	Year 4
Theme 1 <i>Ourselves and Humankind</i>	<p>Autumn: 3-4 year olds: I can make imaginative and complex 'small worlds' with blocks and construction kits based on my existing knowledge and skills I can explore different materials freely, adults may put out a selection of materials for children to explore I can join different materials and explore different textures</p> <p>Reception: create collaboratively, share ideas, resources and skills</p> <p>Spring: 2-3 year olds: I can explore different materials using all of my senses to investigate them. Manipulate and play with different materials 3-4 year olds: I can make imaginative and complex 'small worlds' with blocks and construction kits such as a city with different buildings and a park I can explore different materials freely to develop my ideas about how to use them and what to make I can join different materials and explore different textures</p> <p>Reception: create collaboratively, share ideas, resources and skills</p> <p>Summer: 2-3 year olds: I can use my imagination when using different materials I can make simple models that express my ideas 3-4 year olds: I can explore different materials freely to develop my ideas about how to use them and what to make</p> <p>I can join different materials and explore different textures independently</p> <p>Reception ELG: 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</p>	<p>Sliders & Levers – moving animal in its habitat Design purposeful, functional, appealing products for themselves and other users Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, joining, finishing) Select from and use a range of materials and components including paper and card and mechanisms Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria Explore and use mechanisms (sliders and levers) in their products</p>			
Theme 2 <i>Culture and Diversity</i>		<p>Christmas Tree Decoration: Pompoms Design purposeful, functional, appealing products for themselves and others Generate and communicate ideas through talking, drawing and templates Select from and use tools and equipment to cut, shape and join Select from and use textiles and components explore and evaluate existing textile products (wool) Explore and evaluate a range of existing products and evaluate their own products Understand how simple 2D shapes can be joined to make products Use simple joining techniques (tying, wrapping, simple joining)</p>		Making venetian masks	
Theme 3 <i>Community and Citizenship</i>		<p>Mechanisms: Wheels and Axels – fire engines Design purposeful, functional, appealing products for themselves and other users Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, joining, shaping and finishing) Select from and use a range of materials and components including card, wood, junk modelling and wheels and axels Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria Explore and use mechanisms (wheels & axels) in their products</p>		Making Egyptian necklaces	
Theme 4 <i>Exploration and Discovery</i>		<p>Textiles: make a puppet of a significant person Design purposeful, functional, appealing products for themselves and others Generate and communicate ideas through drawing and templates Select from and use tools and equipment to cut, shape and join fabric Select from and use textiles and components explore and evaluate existing textile products Evaluate their own products Understand how simple 2D shapes can be joined to make a 3D product Use simple joining techniques (glue, stitching)</p>		Drift wood wind chimes	
Theme 5 <i>Expression and Creativity</i>		<p>Food: Preparing fruit and vegetables: make a picnic Design purposeful, functional products for themselves and other users Generate and communicate their ideas Select and use tools and equipment to perform practical skills (cutting, peeling) Select and use ingredients Evaluate existing products (taste, texture, appearance) and evaluate their own product against design criteria Understand where food comes from Understand basic principles of a healthy and varies diet</p>		Flip art – moving pictures	
Theme 6 <i>Ourselves and Humankind</i>		<p>Structures: free standing structures: make a house Design purposeful, functional, appealing products for themselves and other users Generate, develop and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, joining, finishing) Select from and use a range of materials and components including paper and card Explore and evaluate a range of existing products (structures) and evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable</p>		Greek clay pots	



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<p>Theme 1 <i>Ourselves and Humankind</i></p>	<p>Autumn: 3-4 year olds: I can make imaginative and complex 'small worlds' with blocks and construction kits based on my existing knowledge and skills I can explore different materials freely, adults may put out a selection of materials for children to explore I can join different materials and explore different textures Reception: create collaboratively, share ideas, resources and skills</p>	<p>Food preparation: preparing fruit and vegetables: making soup and bread for Harvest Festival Design purposeful, functional products for themselves and other users Generate and communicate their ideas Select and use tools and equipment to perform practical skills (cutting, peeling) Select and use ingredients Evaluate existing products (taste, texture, appearance) and evaluate their own product against design criteria Understand where food comes from Understand basic principles of a healthy and varies diet</p>		<p>Woolly Mammoth Models</p>	
<p>Theme 2 <i>Culture and Diversity</i></p>		<p>Christmas tree decoration: make a Pompom Design purposeful, functional, appealing products for themselves and others Generate and communicate ideas through talking, drawing and templates Select from and use tools and equipment to cut, shape and join Select from and use textiles and components explore and evaluate existing textile products (wool) Explore and evaluate a range of existing products and evaluate their own products Understand how simple 2D shapes can be joined to make products Use simple joining techniques (tying, wrapping, simple joining)</p>		<p>Cardboard Models of London and Paris landmarks</p>	
<p>Theme 3 <i>Community and Citizenship</i></p>	<p>Spring: 2-3 year olds: I can explore different materials using all of my senses to investigate them. Manipulate and play with different materials 3-4 year olds: I can make imaginative and complex 'small worlds' with blocks and construction kits such as a city with different buildings and a park I can explore different materials freely to develop my ideas about how to use them and what to make I can join different materials and explore different textures Reception: create collaboratively, share ideas, resources and skills</p>	<p>Textiles: make An emergency pouch for a nurse Design purposeful, functional, appealing products for themselves and others Generate, develop, model and communicate ideas through talking, drawing, templates and mock-ups Select from and use tools and equipment to cut, shape, join and finish Select from and use materials and components (fabric, felt, Velcro, ties) Explore and evaluate a range of existing products and evaluate their own products against design criteria Understand how simple 2D shapes can be joined to make products Use simple joining techniques (gluing, stapling, simple stitching)</p>		<p>Roman Shields</p>	
<p>Theme 4 <i>Exploration and Discovery</i></p>		<p>Mechanisms: wheels & axels: make a safari jeep Design purposeful, functional, appealing products for themselves and other users Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, joining, shaping and finishing) Select from and use a range of materials and components including card, junk modelling and wheels and axels Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria Explore and use mechanisms (wheels & axels) in their products</p>		<p>Rainforest Dioramas</p>	
<p>Theme 5 <i>Expression and Creativity</i></p>	<p>Summer: 2-3 year olds: I can use my imagination when using different materials I can make simple models that express my ideas 3-4 year olds: I can explore different materials freely to develop my ideas about how to use them and what to make I can join different materials and explore different textures independently Reception ELG: 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</p>	<p>Sliders & levers: seaside scene Design purposeful, functional, appealing products for themselves and other users Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, joining, finishing) Select from and use a range of materials and components including paper and card and mechanisms Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria Explore and use mechanisms (sliders and levers) in their products</p>		<p>Anglo-Saxon Wattle and Daub Walls</p>	
<p>Theme 6 <i>Ourselves and Humankind</i></p>		<p>Structures: Make a Victorian slate Design purposeful, functional, appealing products for themselves and other users Generate, develop and communicate their ideas through talking, drawing, templates and mock-ups Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing) Select from and use a range of materials and components including card, wool, stiff materials, wood, glue, tape Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable</p>		<p>Banana Bread Baking</p>	