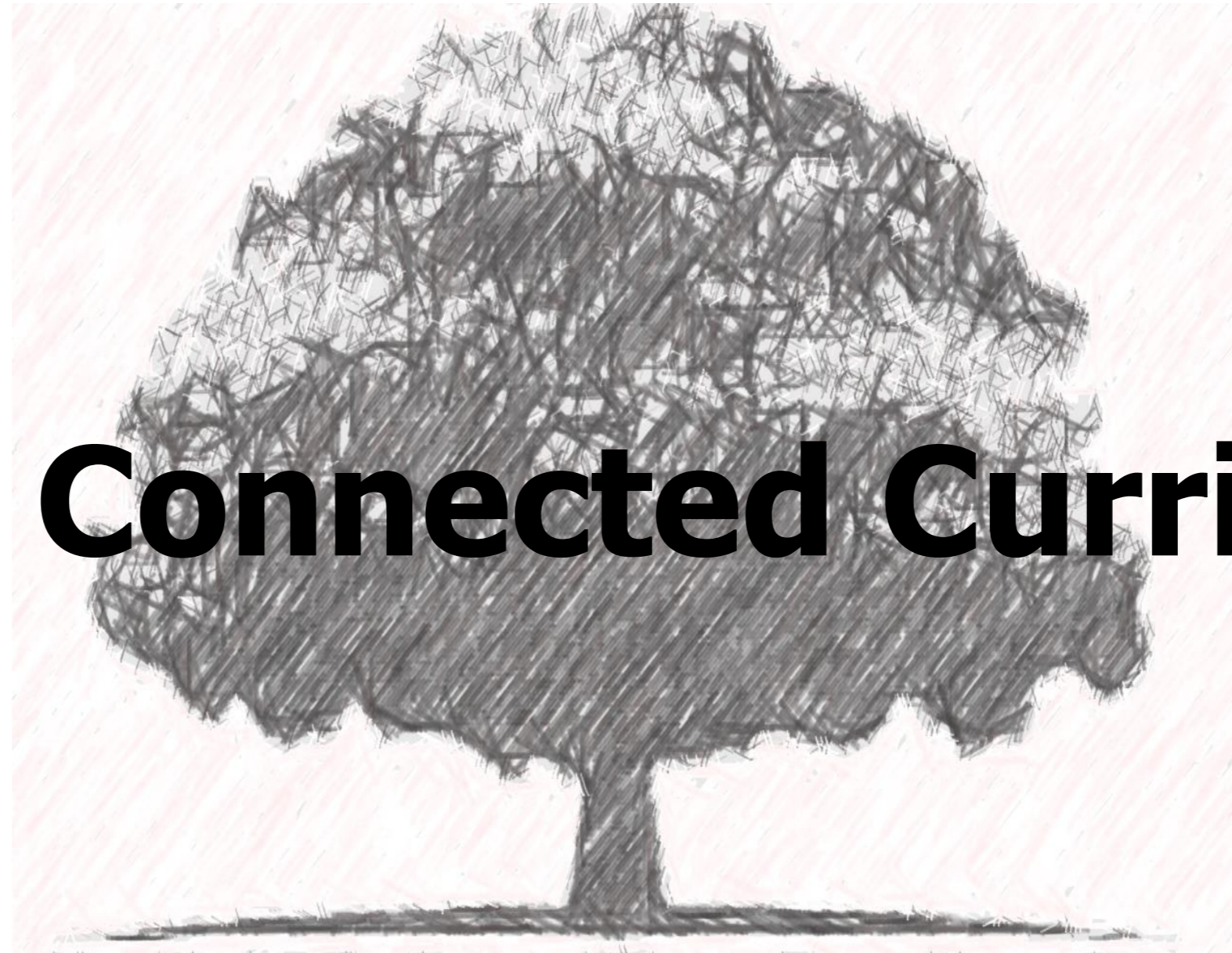


# Kelsall Connected Curriculum



*'A Love for Learning'*

**Kelsall Primary & Nursery School**

**Design And Technology Overview**



Cheshire Academies Trust  
*Inspiring hearts and minds*



**KELSALL**  
PRIMARY AND  
NURSERY SCHOOL  
A LOVE FOR LEARNING

## Design and Technology Curriculum at Kelsall Primary School

### Intent

Design and Technology at Kelsall is about giving pupils the skills and opportunities to research, plan, create safely and evaluate processes and products. By linking Design and Technology projects to the texts studied in English and the topics contexts from the Connected Curriculum, pupils learn about the wider world in a context, giving the projects and skills meaningful links to real life.

Our curriculum intent for DT is for children to learn the knowledge and skills required to solve real world problems in varied and exciting contexts, drawing on their own and others' wants and needs to achieve this. We aspire pupils to draw on close cross curricular links with subjects such as mathematics, science, computing and art through their study of design and technology; becoming increasingly resourceful, innovative, enterprising and capable creators. Pupils will use analytical skills to draw conclusions, critiquing past and present products to determine impact upon consumers and the wider world, understanding the benefits design and technology brings to society. Pupils will use skills to enhance and improve their own designs and creations.

### Implementation

We structure our DT curriculum by using the National Curriculum, as well as Projects on a Page. This allows all our children, in every year group, to have a full and in depth understanding of the designing, making, evaluating and cooking strands. In each year group, all children have the opportunity to complete a range of products that will focus on construction, textiles and cookery. Throughout KS2, pupils will develop their understanding of computer-aided design and use this to inform their designs.

#### Key Elements

The Skills in D&T are focussed on the key areas:

- Developing planning and communicating ideas:
- Working with tools, equipment, materials and components to make quality products (inc food)
- Evaluating processes and products
- Vocabulary

The projects in D&T cover 4 main types:

- Construction
- Mechanisms
- Textiles
- Cooking and Nutrition

### Impact

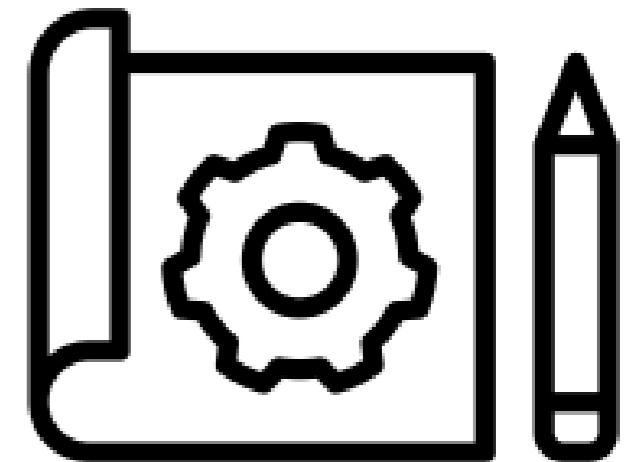
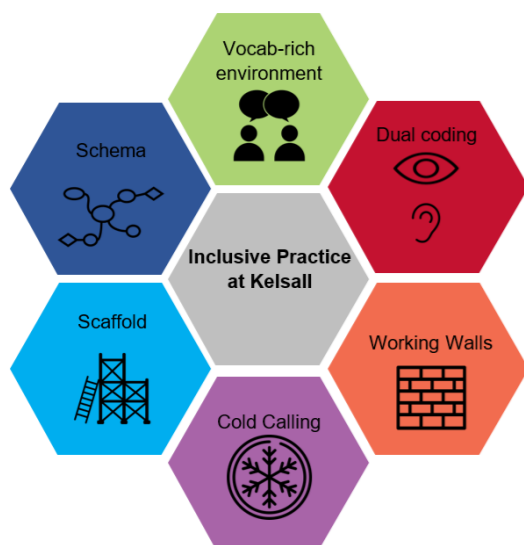
At Kelsall, we believe that the impact of cross curricular teaching and linking it to our class text encourages children to make familiar links. Kelsall prides itself on high expectations and quality evidenced work presented in books. Children will begin to make relevant links from geography to other curriculum subjects, such as history and science. They will improve their enquiry skills and curiosity about the world around them, and their impact on the world and the human and physical processes.

### Inclusive Practice

When we are getting things right for our learners with SEND, we are getting it right for all learners. Inclusive Practice means we use approaches that are effective for learners with SEND. This will provide all learners with opportunities to learn in small steps and carefully build upon their prior knowledge. This is done through a range of approaches including:

- creating a language rich environment which is vital to closing the gap between learners with SEND and their peers and enabling future attainment.
- demonstrating what we want learners to do and show them what we mean.
- using physical resources to help abstract concepts become more accessible and meaningful and recognise the value of Dual Coding.
- reducing Cognitive Load and activate children's prior knowledge/schema through a connected curriculum that builds of prior learning, knowledge and skills and provides regular opportunities for learners to practise recalling what they have learnt, to help them easily access this information when it is needed.

'With reference to **Embedding Inclusive Practice**', NASEN





Designing	Key Stage 1	Key Stage 2
Understanding contexts, users and purposes	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment</li> <li>state what products they are designing and making</li> <li>say whether their products are for themselves or other users</li> <li>describe what their products are for</li> <li>say how their products will work</li> <li>say how they will make their products suitable for their intended users</li> <li>use simple design criteria to help develop their ideas</li> </ul>	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> <li>work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</li> <li>describe the purpose of their products</li> <li>indicate the design features of their products that will appeal to intended users</li> <li>explain how particular parts of their products work</li> </ul> <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>gather information about the needs and wants of particular individuals and groups</li> <li>develop their own design criteria and use these to inform their ideas</li> </ul> <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>carry out research, using surveys, interviews, questionnaires and web-based resources</li> <li>identify the needs, wants, preferences and values of particular individuals and groups</li> <li>develop a simple design specification to guide their thinking</li> </ul>
Generating, developing, modelling and communicating ideas	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>generate ideas by drawing on their own experiences</li> <li>use knowledge of existing products to help come up with ideas</li> <li>develop and communicate ideas by talking and drawing</li> <li>model ideas by exploring materials, components and construction kits and by making templates and mock-ups</li> <li>use information and communication technology, where appropriate, to develop and communicate their ideas</li> </ul>	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> <li>share and clarify ideas through discussion</li> <li>model their ideas using prototypes and pattern pieces</li> <li>use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas</li> <li>use computer-aided design to develop and communicate their ideas</li> </ul> <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>generate realistic ideas, focusing on the needs of the user</li> <li>make design decisions that take account of the availability of resources</li> </ul> <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>generate innovative ideas, drawing on research</li> <li>make design decisions, taking account of constraints such as time, resources and cost</li> </ul>
Making	Key Stage 1	Key Stage 2
Planning	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>plan by suggesting what to do next</li> <li>select from a range of tools and equipment, explaining their choices</li> <li>select from a range of materials and components according to their characteristics</li> </ul>	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> <li>select tools and equipment suitable for the task</li> <li>explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> <li>select materials and components suitable for the task</li> <li>explain their choice of materials and components according to functional properties and aesthetic qualities</li> </ul> <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>order the main stages of making</li> </ul> <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>produce appropriate lists of tools, equipment and materials that they need</li> <li>formulate step-by-step plans as a guide to making</li> </ul>
Practical skills and techniques	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>follow procedures for safety and hygiene</li> <li>use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components</li> <li>measure, mark out, cut and shape materials and components</li> <li>assemble, join and combine materials and components</li> <li>use finishing techniques, including those from art and design</li> </ul>	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> <li>follow procedures for safety and hygiene</li> <li>use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</li> </ul> <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>measure, mark out, cut and shape materials and components with some accuracy</li> <li>assemble, join and combine materials and components with some accuracy</li> <li>apply a range of finishing techniques, including those from art and design, with some accuracy</li> </ul> <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> <li>accurately measure, mark out, cut and shape materials and components</li> <li>accurately assemble, join and combine materials and components</li> <li>accurately apply a range of finishing techniques, including those from art and design</li> <li>use techniques that involve a number of steps</li> <li>demonstrate resourcefulness when tackling practical problems</li> </ul>

## EYFS Links

## Expressive Arts and Design

- Return to and build on their previous learning, refining ideas and developing their ability to represent them
- Create collaboratively sharing ideas, resources and skills

## Physical Development

- Develop their small motor skills so that they can use a range of tools competently, safely and confidently

## Creating with Materials

- Safely use and explore a variety of materials, tools and techniques
- Share their creations, explaining the process they have used; make use of props and materials when role playing characters in narratives and stories





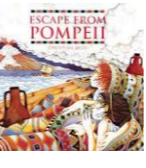

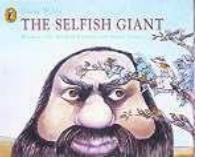



## Fine Motor Skills

- Use a range of small tools, including scissors, paint brushes and cutlery

## By the time they leave, pupils will:

- Understand the impact of design and technology on daily life and the wider world (past and present)
- Use research and develop design criteria to inform the designing and making of products that are fit for purpose, aimed at particular individuals or groups
- Use a range of techniques and equipment confidently, making informed choices based on the suitability and effectiveness of different processes
- Test, evaluate and refine ideas and products against a specification ± Use and combine a variety of approaches to generate creative ideas
- Look closely and methodically when analysing a product, considering why it was made, what it is made from, how well it is made and finished, and how well it meets the needs of the consumer
- Understand the principles of a healthy and varied diet ± Know how to create simple dishes, applying the principles of nutrition and healthy eating

## Kelsall Primary & Nursery School Curriculum Road Map –Design and Technology Endpoints

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					
<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Freestanding Structures</b> Possible ideas Build a cage for nibbles,</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Preparing Vegetables</b> Possible ideas Bird Fruit Salad, Fruit kebab, Space Fruit Juice</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Shell Structures</b> Possible ideas Snow scene in a box - cutting, shaping, joining, finishing</p> <p><b>Healthy and Varied Diet</b> Possible ideas Make a healthy snack for a child</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Shell structures using computer-aided design (CAD)</b> Possible ideas Design a circus tent/toy</p> <p><b>Healthy and Varied Diet</b> Possible ideas Make a healthy meal for Hannah and the Gorilla</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Frame Structures</b> Possible Ideas playground shelter market stall bus shelter tent play house</p> <p><b>Celebrating Culture and Seasonality</b> Possible ideas Make a celebratory food eaten during Eid al-Fitr</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Combining Different Fabric Shapes</b> Possible Ideas tablet case mobile phone carrier shopping bag insulating bag hat/cap garden tool belt slippers sandals fabric advent calendar fabric door stop</p>
					
<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Templates and joining techniques</b> Possible ideas Make a rainmaker or African mask</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Possible ideas</b> Dragon puppet, Major Dizzy puppet</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>2-D shape to 3-D product</b> Possible ideas Sew a felt whale</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>2-D shape to 3D product</b> Possible ideas Sew an ancient Greek money bag</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Pulleys and Gears</b> Possible Ideas fairground ride with gears or pulleys e.g. carousel, Ferris wheel controllable toy vehicle with gears or pulleys e.g. Moon buggy</p>	<p>Children can discuss the possible products that they might want to design, make and evaluate and who the products will be for. They can agree on design criteria that can be used to guide the development and evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</p> <p><b>Pulleys and Gears</b> Possible Ideas fairground ride with gears or pulleys e.g. carousel, Ferris wheel controllable toy vehicle with gears or pulleys e.g. Moon buggy</p>
					
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<p><b>the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Preparing fruit and vegetables</b>  <b>Possible ideas</b> Prepare food for a teddy bears' picnic or a party, fruit kebabs</p>	<p><b>evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Wheels and Axels</b>  <b>Possible ideas</b> Dragon puppet, Major Dizzy puppet</p>	<p><b>evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Levers and Linkages</b>  <b>Possible ideas</b> Design and make a bridge to cross the moat into the citadel</p>	<p><b>products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Electrical Systems – simple circuits and systems</b>  <b>Possible ideas</b> Make a torch</p>	<p><b>evaluation of the products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Combining Different Fabric Shapes</b>  <b>Possible Ideas</b> tablet case mobile phone carrier shopping bag insulating bag hat/cap garden tool belt slippers sandals fabric advent calendar fabric door stop</p>	<p><b>products e.g. Who/what is the product for? What will make our product unique/different? How will we know that we designed and made a successful product?</b></p> <p><b>Electrical Systems: Monitoring and Control</b>  <b>Possible Ideas</b> vehicle alarm security lighting system alarm for valuable artefact automatic nightlight electrical board game alarm for school shed</p>
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**Progression of Skills**

	<b>Reception</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<p><b>Developing planning and communicating ideas:</b></p> <p><b>Working with tools, equipment, materials and component to make quality products (inc food)</b></p>	<p>Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively sharing ideas, resources and skills.</p>	<ul style="list-style-type: none"> <li>• Draw on their own experience to help generate ideas.</li> <li>• Suggest ideas and explain what they are going to do.</li> <li>• Identify a target group for what they intend to design and make.</li> <li>• Model their ideas in card and paper.</li> <li>• Develop their design ideas applying findings from their earlier research</li> </ul>	<ul style="list-style-type: none"> <li>• Generate their own ideas by drawing on their own and other people's experiences.</li> <li>• Develop their design ideas through discussion, observation, drawing and modelling.</li> <li>• Identify a purpose for what they intend to design and make.</li> <li>• Identify simple design criteria.</li> <li>• Make simple drawings and label part</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas for an item considering its purpose and the user/s.</li> <li>• Identify a purpose and establish criteria for a successful product.</li> <li>• Plan the order of their work before starting.</li> <li>• Explore, develop and communicate design proposals by modelling ideas.</li> <li>• Make drawings with labels when designing</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas, considering the purposes for which they are designing.</li> <li>• Make labelled drawings from different views showing specific features.</li> <li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail.</li> <li>• Evaluate products and identify criteria that can be used for their own designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas through brainstorming and identify a purpose for their product.</li> <li>• Draw up a specification for their design.</li> <li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail.</li> <li>• Use results of investigations, information sources, including ICT when developing design ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate their ideas through detailed labelled drawings.</li> <li>• Develop a design specification.</li> <li>• Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways.</li> <li>• Plan the order of their work, choosing appropriate materials, tools and techniques.</li> </ul>
	<p>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Make use of props and materials when role playing characters in narratives and stories.</p>	<ul style="list-style-type: none"> <li>• Make their design using appropriate techniques.</li> <li>• With help measure, mark out, cut and shape a range of materials.</li> <li>• Use tools eg scissors and a hole punch safely.</li> <li>• Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape..</li> <li>• Use simple finishing techniques to improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to select tools and materials; use vocab' to name and describe them.</li> <li>• Measure, cut and score with some accuracy.</li> <li>• Use hand tools safely and appropriately.</li> <li>• Assemble, join and combine materials in order to make a product.</li> <li>• Follow safe procedures for food safety and hygiene.</li> <li>• Choose and use appropriate finishing techniques</li> </ul>	<ul style="list-style-type: none"> <li>• Select tools and techniques for making their product.</li> <li>• Measure, mark out, cut, score and assemble components with more accuracy.</li> <li>• Work safely and accurately with a range of simple tools.</li> <li>• Think about their ideas as they make progress and be willing to change things if this helps them improve their work.</li> <li>• Demonstrate hygienic food preparation and storage.</li> <li>• Use finishing techniques to strengthen and improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools and techniques for making their product.</li> <li>• Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.</li> <li>• Join and combine materials and components accurately in temporary and permanent ways.</li> <li>• Sew using a range of different stitches, weave and knit</li> <li>• Measure, tape or pin, cut and join fabric with some accuracy.</li> <li>• Use simple graphical communication techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate materials, tools and techniques.</li> <li>• Measure and mark out accurately.</li> <li>• Use skills in using different tools and equipment safely and accurately.</li> <li>• Weigh and measure accurately (time, drying ingredients, liquids).</li> <li>• Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens.</li> <li>• Cut and join with accuracy to ensure a good-quality finish to the product.</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools, materials, components and techniques.</li> <li>• Assemble components to make working models.</li> <li>• Use tools safely and accurately.</li> <li>• Construct products using permanent joining techniques.</li> <li>• Make modifications as they go along.</li> <li>• Pin, sew and stitch materials together to create a product.</li> <li>• Achieve a quality product</li> </ul>

<p><b>Evaluating processes and products</b> <b>Evaluating processes and products</b></p>	<p>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>	<ul style="list-style-type: none"> <li>• Evaluate their product by discussing how well it works in relation to the purpose.</li> <li>• Evaluate their products as they are developed, identifying strengths and possible changes they might make.</li> <li>• Evaluate their product by asking questions about what they have made and how they have gone about it</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate against their design criteria.</li> <li>• Evaluate their products as they are developed, identifying strengths and possible changes they might make.</li> <li>• Talk about their ideas, saying what they like and dislike about them.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their product against original design criteria e.g. how well it meets its intended purpose.</li> <li>• Disassemble and evaluate familiar products</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their work both during and at the end of the assignment.</li> <li>• Evaluate their products carrying out appropriate tests</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate a product against the original design specification.</li> <li>• Evaluate it personally and seek evaluation from others.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their products identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• Record their evaluations using drawings with labels.</li> <li>• Evaluate against their original criteria and suggest ways that their product could be improved</li> </ul>
<p><b>Vocabulary</b></p>	<p>Apron, beads, Sellotape, build, chop, buttons, glue stick, make, cut, fabric, masking tape, equipment, felt, paper, clip, fork, scissors, plasticine, knife, sew, ruler, mix, straws, spoons</p>	<p>Functional. Design, criteria, generate, develop, model, communicate,, technology, equipment, cutting, shaping, joining, finishing, components, textiles, ingredients, structures, stronger, stiffer, stable, mechanism</p>		<p>Functional. design, criteria, generate, develop, model, communicate,, technology, equipment, cutting, shaping, joining, finishing, components, textiles, ingredients, structures, stronger, stiffer, stable, mechanism, iterative, context, discussion, cross section, annotate, exploded diagrams, prototypes, pattern pieces, computer-aided design, aesthetic, construction materials, investigate, analyse, reinforce, monitor, control, seasonality, nutrition,</p>			