

D&T in EYFS (Expressive Arts and Design)

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Nursery & Reception	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery 3-4 Year Olds	Super Duper Me	If You Go Down to the Woods Today...	Artic Adventure	Down in the Jungle	In the Garden	Splish, Splash, Splosh!
	<p>Personal, Social and Emotional Development</p> <p>Managing Self</p> <p>Begin to select and use continuous provision resources, with help when needed ... <i>resources</i></p> <ul style="list-style-type: none"> • Make independent learning choices ... <i>learning / play</i> • Put resources back in right place once used <p>Physical Development</p> <p>Gross Motor Skills</p> <p>Begin to use large-muscle movements to</p> <ul style="list-style-type: none"> • Wave flags and streamers (top to bottom / circle – <i>Wiggle Me into Squiggle</i>) • Paint and make marks <p>Begin to jump with two feet and learn to hop on one foot.</p> <p>Fine Motor Skills</p> <p>Use <i>some</i> one-handed tools and equipment.</p>	<p>Physical Development</p> <p>Gross Motor Skills</p> <p>Choose the right resource to carry out chosen plan</p> <p>Fine Motor Skills</p> <p>Use a <i>range</i> of one-handed tools and equipment</p> <ul style="list-style-type: none"> • Across provision: - pouring / filling – stirring / mixing – rolling – cutting/sticking – painting / drawing / mark making. <p>Understanding the World</p> <p>Natural World</p> <p>Explore how things work.</p> <p>Continue to talk about the differences between materials and the changes they notice.</p> <ul style="list-style-type: none"> • Changes of state... <i>what happens when water freezes?</i> 	<p>Physical Development</p> <p>Gross Motor Skills</p> <p>Choose the right resource to carry out chosen plan.</p> <p>Fine Motor Skills</p> <p>Use one-handed tools and equipment <i>confidently and independently</i>... <i>scissors, glue sticks, pencils, pens, marker pens.</i></p> <ul style="list-style-type: none"> • Across provision: cutting/sticking – painting / drawing / writing letters. <p>Understanding the World</p> <p>Natural World</p> <p>Explore how things work.</p> <p>Talk about the differences between materials and the changes they notice.</p> <ul style="list-style-type: none"> • Changes of state... <i>what happens when some cold is left in the sun?</i> 			

- Across provision: - pouring / filling – stirring / mixing – rolling – painting / drawing / mark making.

Understanding the World

Natural World

Begin to explore how things work.

Begin to talk about the differences between materials and the changes they notice.

- Making playdough/salt dough for provision.

Cooking/Baking... *porridge for Goldilocks: what happens when we add hot water? ...Bake Gingerbread at Christmas*

Expressive Arts and Design

Creating with Materials

Explore and respond to different textures, colours and patterns through simple print-making, developing fine motor skills to grip and hold ...*press, hold still, print*

Clay/Playdough: Explore properties e.g. *poking, pulling, pinching, squeezing, patting. ...poke, pull, pinch, squeeze, pat*

Loose Parts: Explore properties of different object /materials: moving, combining, lining up and stacking. ... *line up, stack*

Implementation:

Provide appropriate tools and joining methods for the materials offered.

Encourage children to explore materials.

Help children to develop their drawing and model making.

Expressive Arts and Design

Creating with Materials

Use mark-making to:

- Create shorter lines, curves, enclosed circles; discovering that lines can make shapes

Explore with natural and man-made objects, printing on different surfaces 2D & 3D. Observe that printing means an image can be repeated. ... *repeat*

Clay/Playdough: Explore properties further and create different surface textures. Use simple tools to shape & mould, e.g. begin to roll sausages and ball shapes. ...*shapes*

Loose Parts: Begin to use selected parts to create simple constructions and models. Use simple tools to *join, fix, cut* etc.

Begin to use tools to help fix, join and cut. Begin to affect change on materials e.g. crumpling, tearing, cutting. ... *scrunch, tear*

Implementation:

Stimulate children's interest in modelling.

Provide appropriate tools and joining methods for the materials offered.

Encourage children to explore materials.

Listen and understand what children want to create before offering suggestions.

Help children to develop their drawing and model making.

Expressive Arts and Design

Creating with Materials

Draw lines and shapes to:

- Draw from imagination, using simple abstract lines and shapes

Use tools with increasing control to support model-making. Develop their own ideas and then decide which materials to use to express them.

Find, collect, arrange and stick material onto a surface to make a picture or pattern. Join different materials and explore different textures.

Clay/Playdough: Make a clay form & manipulate it with fingers to suggest a subject.

Loose Parts: **Begin to** make constructions and models with a purpose, deciding / planning what to make.

Being Imaginative and Expressive

Make imaginative and complex 'small worlds' with blocks and construction kits... *a city with different buildings and a park*

Implementation:

Encourage children to explore materials.

Listen and understand what children want to create before offering suggestions.

Help children to develop their drawing and model making.

Create fantasy gardens outside space for children to play imaginatively.

Allow the children to freely explore materials.

	<p>Help children to develop their listening skills through a range of active listening activities.</p> <p>Stimulate children's interest in modelling.</p> <p>Encourage children to explore materials.</p> <p>Listen and understand what children want to create before offering suggestions.</p> <p>Food and Nutrition - daily snack time.</p>		<p>Provide junk-modelling materials, masking tape, glue, paperclips and fasteners to join different materials together and create props for jungle-themed story, allowing children to decide what to make.</p>		<p>Ask them to tell the rest of the group what they</p> <p>Provide the children with junk-modelling materials, such as cardboard boxes and tubes. and joining methods for the materials offered.</p> <p>Also, provide them with glue and masking tape so they can explore joining different materials.</p>	
Key Vocabulary	Join, materials, model, make, design, cut, stick, tools, boil, cook, observe,		Join, materials, model, make, design, cut, stick, tools, paper, cardboard, glue, tape, masking tape, Sellotape,		Join, materials, model, make, design, cut, stick, tools, paper, cardboard, glue, tape, masking tape, Sellotape, create, make, design, evaluate	
Reception	All About Me/Farmyard	Light and Dark	Journeys	Explorers	Animal Growth / Minibeasts	Under the Sea
	<p>Physical Development</p> <p>Gross Motor Skills</p> <p>Begin to use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor ... <i>straight, upright, flat</i></p> <p>Begin to combine different movements with ease and fluency.</p> <p>Fine Motor Skills</p> <p>Continue to develop small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons</p> <ul style="list-style-type: none"> Ensure regular engagement and develop confidence in use of tools... <i>grip, steady, snip, twist, curve, straight.</i> 		<p>Physical Development</p> <p>Gross Motor Skills</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.</p> <ul style="list-style-type: none"> Daily modelling and support. <p>Combine different movements with ease and fluency.</p> <p>Fine Motor Skills</p> <p>Develop small motor skills so that they can use a range of tools competently, safely and confidently.</p> <ul style="list-style-type: none"> Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. 		<p>Physical Development</p> <p>Gross Motor Skills</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.</p> <p>Fine Motor Skills</p> <p>Use a range of small tools, including scissors, paint brushes and cutlery.</p> <p>Expressive Arts and Design</p> <p>Creating with Materials</p> <p>Work collaboratively with other children, sharing ideas, resources and skills.</p> <p>Return to and build on previous learning, refining ideas and developing ability to represent them.</p>	

	<p>Expressive Arts and Design</p> <p>Creating with Materials</p> <p>Begin to explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Clay/Playdough: Mould with hands using techniques such as pinching, squeezing, pulling, poking, patting to achieve a desired effect (e.g. sausages, balls, thumb pot). Use tools appropriately to roll, cut, flatten etc.</p> <p>Loose Parts: Independently make constructions, using own ideas and available loose parts. Show increasing skills with combining, lining up, stacking etc.</p> <p>Model wood work station.</p> <p>Explore different contrasting textures e.g. rough, smooth.</p> <p>Use techniques (e.g. folding, crunching, tearing and cutting) to create different effect.</p> <p>D&T Baking Opportunities</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p><i>Children to bake bread linked to The Little Red Hen.</i></p> <p><i>Children to create their own fruit pattern.</i></p> <p>Implementation:</p> <p><i>Children will be introduced to the skills and techniques developed in the junk modelling area.</i></p> <p><i>Children work in groups to design, make and evaluate a rocket out of wood using a range of tools.</i></p> <p><i>Children will create in the Junk Modelling area - model language and use of different tools safely.</i></p> <p><i>Children will explore with Clay to create a Diva Pot.</i></p> <p><i>Children will bake bread.</i></p> <p><i>Children will explore their own interest through child-led continuous provision opportunities.</i></p>	<p>Expressive Arts and Design</p> <p>Creating with Materials</p> <p>Return to and build on previous learning.</p> <p>Clay/Playdough: Combine pieces using different techniques and tools to represent a familiar object (e.g. a caterpillar) and represent the feel of an object (e.g. spiky, furry, smooth).</p> <p>Loose Parts: Build and de-construct loose part models / constructions to represent real life / imaginary objects and experiences. Handle tools and materials with increasing control.</p> <p>Use tools and materials effectively to explore shape, pattern and form to make pictures and other collage. Make repeating and irregular patterns.</p> <p>D&T Baking Opportunities</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p>Children to prepare and taste African fruits.</p> <p>Implementation:</p> <p><i>Children will design and make their own vehicles in the junk modelling area. Children will explore their own interest through child-led continuous provision opportunities.</i></p> <p><i>Woodwork Area - Make a vehicle.</i></p> <p><i>Children will design and make African masks.</i></p> <p><i>Explore and investigate construction kits.</i></p> <p><i>Children will help prepare and taste different fruits.</i></p>	<p>Clay/Playdough: Make models with a purpose and with increasing skill (e.g. shaping, moulding or combining pieces) For instance, with a systematic approach - begin with a stalk, leaf, the disc floret and petals to make a sunflower.</p> <p>Loose Parts: Make imaginative structures, using tools with control. Explore a wide range of materials, making simple forms and applying simple decorative features where wanted.</p> <p>Independently assemble different pieces to create a picture or pattern. Use imagination / observation, building on their previous learning, to represent their ideas.</p> <p>Implementation:</p> <p><i>Children will design and make their own animal home and habitat.</i></p> <p><i>Children will explore their own interest through child-led continuous provision opportunities.</i></p> <p><i>Children will design and make their own boat using different materials and test to see if it floats or sinks.</i></p> <p><i>Children will explore their own interest through child-led continuous provision opportunities.</i></p>
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	<p><i>Model Woodwork area.</i></p> <p><i>Children will build on skills and techniques in the junk modelling area to design and make their own space rocket using a variety of tools and techniques.</i></p>		
<p>Key Vocabulary</p>	<p>Plan, design, metal, wood, plastic, equipment, build, model, tools, cut, fold, stick, glue, string, tape, hygiene, ingredients, mix, knead, bake, sieve, bake, small, taste, bread, texture,</p>	<p>Plan, design, texture, metal, wood, plastic, equipment, build, model, tools, cut, fold, stick, glue, string, tape, weave, pattern, hygiene, taste, healthy, fruit</p>	<p>Plan, design, texture, metal, wood, plastic, equipment, build, model, tools, cut, fold, stick, glue, string, tape, weave, pattern, model, construct, materials, test, evaluate</p>
<p>Early Learning Goals</p> <p>By the end of Reception children are expected to:</p>	<p>Physical Development</p> <p>Fine Motor Skills</p> <ul style="list-style-type: none"> • Use a range of small tools, including scissors, paintbrushes and cutlery. <p>Expressive Arts and Design</p> <p>Creating with Materials</p> <ul style="list-style-type: none"> • 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. 		

Mapping Curriculum Objectives

How the early learning goals feed into objectives from the Year 1 National Curriculum.

Year 1 National Curriculum Objective

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of context [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

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 (for example, cutting, shaping, joining and finishing).
- Select from and use a wide variety of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.

Technical Knowledge

- Build structures, exploring how they can be made stronger, stiffer and more stable.
- Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.

Cooking and Nutrition

- Use the basic principles of a healthy and varied diet.
- Understand where food comes from.

Year Group	D&T Knowledge and Skills (KS1 & KS2)		
	Autumn	Spring	Summer
Year 1 Mechanisms (sliders and levers) Textiles (Templates and joining techniques) Food & Nutrition (Preparing fruit & vegetables)	TECHNICAL KNOWLEDGE		
	<ul style="list-style-type: none"> Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The Eatwell Plate</i>. Know and use technical and sensory vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch or glue. Explore different finishing techniques e.g. using painting, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project.
	CONCEPT KNOWLEDGE		
	RESEARCH <ul style="list-style-type: none"> Explore a range of existing books and everyday products that use simple sliders and levers. Begin to offer opinions, thoughts, and critiques about existing products. Explain who my intended user is and how my product will be used. 	RESEARCH <ul style="list-style-type: none"> Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. Taste and evaluate a range of fruit and vegetables to determine the intended users preferences. 	RESEARCH <ul style="list-style-type: none"> Explore and evaluate a range of existing textile products relevant to the project being undertaken. Begin to offer opinions, thoughts and critiques about existing products. Explain who my intended user is and how my product will be used.
	DESIGN <ul style="list-style-type: none"> Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through drawings and (if appropriate) mock-ups with card and paper. 	DESIGN <ul style="list-style-type: none"> Design appealing products for a particular user based on a simple design criteria. Communicate their ideas through talking and drawing. 	DESIGN <ul style="list-style-type: none"> Design a functional appealing product for a chosen user and purpose based on a simple design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups where appropriate.
		MAKE	

	<p>MAKE</p> <ul style="list-style-type: none"> Plan by suggesting what to do next. Select and use tools, explaining their choices, to cut, shape and join paper and card. Use simple finishing techniques suitable for the product they are creating. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets the design criteria. 	<ul style="list-style-type: none"> Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate ideas and finished products against design criteria, including intended user and purpose. 	<p>MAKE</p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their ideas throughout and their final products against original design criteria. Begin to suggest ways to improve their product and praise what went well.
<u>Year 2</u>	TECHNICAL KNOWLEDGE		
Food & Nutrition (Preparing fruit & vegetables)	<ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The Eatwell Plate</i>. Know and use technical and sensory vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project.
Structures (Free Standing structures)	CONCEPT KNOWLEDGE		
	<p>RESEARCH</p> <ul style="list-style-type: none"> Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Explore and evaluate a range of products with wheels and axles.

<p>Mechanisms (Wheels and Axles)</p>	<ul style="list-style-type: none"> Taste and evaluate a range of fruit and vegetables to determine the intended users preferences. <p>DESIGN</p> <ul style="list-style-type: none"> Design appealing products for a particular user based on a simple design criteria. Communicate their ideas through talking and drawing. <p>MAKE</p> <ul style="list-style-type: none"> Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate ideas and finished products against design criteria, including intended user and purpose. 	<p>DESIGN</p> <ul style="list-style-type: none"> Generate ideas based on a simple design criteria and their own experiences, explaining what they could make. Develop, model, and communicate their ideas through talking, mock-ups (if appropriate) and drawings. <p>MAKE</p> <ul style="list-style-type: none"> Plan by suggesting what to do next. Select and use tools, skills, and techniques, explaining their choices. Select new and reclaimed materials and construction kits to build their structures. Use simple finishing techniques suitable for the structure they are creating. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. 	<p>DESIGN</p> <ul style="list-style-type: none"> Generate initial ideas and simple design criteria through talking and using own experiences. Develop and communicate ideas through drawings and mock-ups. <p>MAKE</p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their ideas throughout and their products against original criteria.
<p><u>Year 3</u></p>	<p>TECHNICAL KNOWLEDGE</p>		
<ul style="list-style-type: none"> Know how to use appropriate equipment and utensils to prepare and combine food. Know and use relevant technical and sensory vocabulary appropriately. 	<ul style="list-style-type: none"> Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. 	<ul style="list-style-type: none"> Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. 	

<p>Food & Nutrition (Healthy & Varied Diet)</p>		<ul style="list-style-type: none"> Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know and use technical vocabulary relevant to the project.
<p>CONCEPT KNOWLEDGE</p>			
<p>Textiles (2-D Shape to 3-D Product)</p> <p>Structures (Shell Structures)</p>	<p>RESEARCH</p> <ul style="list-style-type: none"> Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and/or simple graphs. <p>DESIGN</p> <ul style="list-style-type: none"> Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture, and aroma for an appealing product for a particular user and purpose. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. <p>MAKE</p> <ul style="list-style-type: none"> Plan the main stages of a recipe, listing ingredients, utensils, and equipment. Select and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about necessary characteristics. <p>EVALUATE</p>	<p>RESEARCH</p> <ul style="list-style-type: none"> Investigate a range of 3-D textile products relevant to the project. <p>DESIGN</p> <ul style="list-style-type: none"> Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. Produce product annotated sketches, prototypes, final product sketches and pattern pieces. <p>MAKE</p> <ul style="list-style-type: none"> Plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastening according to their functional characteristics e.g. strength and aesthetic qualities e.g. pattern. <p>EVALUATE</p> <ul style="list-style-type: none"> Test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. <p>DESIGN</p> <ul style="list-style-type: none"> Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. <p>MAKE</p> <ul style="list-style-type: none"> Order the main stages of making. Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. Explain their choice of materials according to functional properties and aesthetic qualities. Use finishing techniques suitable for the product they are creating. <p>EVALUATE</p>

	<ul style="list-style-type: none"> Evaluate the ongoing work and final product with reference to the design criteria and the views of others. 		<ul style="list-style-type: none"> Test and evaluate their own products against a design criteria and the intended user and purpose.
Year 4	TECHNICAL KNOWLEDGE		
	<ul style="list-style-type: none"> Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. Apply their understanding of computing to program and control their products. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Know and use relevant technical and sensory vocabulary appropriately.
	CONCEPT KNOWLEDGE		
Electrical Systems (Simple Circuits)	RESEARCH <ul style="list-style-type: none"> Investigate and analyse a range of existing battery-powered products. 	RESEARCH <ul style="list-style-type: none"> Investigate and analyse books, videos and products with pneumatic mechanisms. 	RESEARCH <ul style="list-style-type: none"> Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and/or simple graphs.
Mechanisms (Pneumatics)	DESIGN <ul style="list-style-type: none"> Gather information about needs and wants and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Generate, develop model, and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. 	DESIGN <ul style="list-style-type: none"> Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. 	DESIGN <ul style="list-style-type: none"> Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture, and aroma for an appealing product for a particular user and purpose. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.
Food & Nutrition (Healthy & Varied Diet)	MAKE <ul style="list-style-type: none"> Order the main stages of making. 	MAKE <ul style="list-style-type: none"> Order the main stages of making. Select from and use appropriate tools and some accuracy to cut and join materials and components such as tubing, syringes, and balloons. Select from and use finishing techniques suitable for the product they are creating. 	MAKE <ul style="list-style-type: none"> Plan the main stages of a recipe, listing ingredients, utensils, and equipment.

	<ul style="list-style-type: none"> Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their ideas and products against their design criteria and identify strengths and areas for improvement in their work. 	<p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate their own products and ideas against criteria and user needs, as they design and make. 	<ul style="list-style-type: none"> Select and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about necessary characteristics. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate the ongoing work and final product with reference to the design criteria and the views of others.
<u>Year 5</u>	TECHNICAL KNOWLEDGE		
Structures (Frame Structures)	<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures and 3D frameworks. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary. 	<ul style="list-style-type: none"> Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Understand the use of computer control systems in products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.
Electrical Systems (Monitoring and control / More complex circuits and switches)	CONCEPT KNOWLEDGE		
Food & Nutrition	<p>RESEARCH</p> <ul style="list-style-type: none"> Investigate and evaluate a range of existing frame structures. Research key events and individuals relevant to frame structures. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Gain an understanding of essential characteristics of a series circuit by investigating and analysing existing products relevant to the project. <p>DESIGN</p>

<p>(Celebrating Culture & Seasonality)</p>	<p>DESIGN</p> <ul style="list-style-type: none"> Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate, develop, and model innovative ideas, through discussion, prototypes and annotated sketches. <p>MAKE</p> <ul style="list-style-type: none"> Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making. <p>EVALUATE</p> <ul style="list-style-type: none"> Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. 	<ul style="list-style-type: none"> Understand how key chefs have influenced eating habits to promote varied and healthy diets. <p>DESIGN</p> <ul style="list-style-type: none"> Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Use words, annotated sketches, and information and communication technology as appropriate to develop and communicate ideas. <p>MAKE</p> <ul style="list-style-type: none"> Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Make, decorate and present the food product appropriately for the intended user and purpose. <p>EVALUATE</p> <ul style="list-style-type: none"> Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. 	<ul style="list-style-type: none"> Develop a design specification for a functional product that responds automatically to changes in the environment. Generate, develop, and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. <p>MAKE</p> <ul style="list-style-type: none"> Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. Create and modify a computer control program to enable their electrical product to respond to changes in the environment. <p>EVALUATE</p> <ul style="list-style-type: none"> Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose.
<p><u>Year 6</u></p>	<p>TECHNICAL KNOWLEDGE</p>		

<p>Mechanisms (CAMS)</p>	<ul style="list-style-type: none"> Understand that mechanical systems have an input, process and an output. Understand how cams can be used to produce different types of movement and change the direction of movement. 	<ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary. 	<ul style="list-style-type: none"> A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate.
<p>Food & Nutrition</p>	<p>CONCEPT KNOWLEDGE</p>		
<p>(Celebrating Culture & Seasonality)</p> <p>Textiles (Combining different fabric shapes)</p>	<p>RESEARCH</p> <ul style="list-style-type: none"> Investigate famous manufacturing and engineering companies relevant to the project. Explore, investigate and analyse existing CAMS products relevant to the project. Identify strengths and weaknesses in existing products to inform design choices. <p>DESIGN</p> <ul style="list-style-type: none"> Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. <p>MAKE</p> <ul style="list-style-type: none"> Produce detailed lists of tools, equipment and materials. Formulate 	<p>RESEARCH</p> <ul style="list-style-type: none"> Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. Understand how key chefs have influenced eating habits to promote varied and healthy diets. <p>DESIGN</p> <ul style="list-style-type: none"> Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Use words, annotated sketches, and information and communication technology as appropriate to develop and communicate ideas. <p>MAKE</p> <ul style="list-style-type: none"> Write a step-by-step recipe, including a list of ingredients, equipment and utensils. 	<p>RESEARCH</p> <ul style="list-style-type: none"> Investigate and analyse textile products linked to their final product. <p>DESIGN</p> <ul style="list-style-type: none"> Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. <p>MAKE</p> <ul style="list-style-type: none"> Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that are accurately assembled and well finished.

	<p>step-by-step plans and, if appropriate, allocate tasks within a team.</p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p>EVALUATE</p> <ul style="list-style-type: none"> • Compare the final product to the original design specification. • Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. 	<ul style="list-style-type: none"> • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose. <p>EVALUATE</p> <ul style="list-style-type: none"> • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. 	<p>Work within the constraints of time, resources and cost.</p> <p>EVALUATE</p> <ul style="list-style-type: none"> • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work.
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