

Design and Technology Overview

EYFS progression map from birth to the end of Reception year

Area of Learning Expressive Arts and Design –Creating with Materials DT

Concept:







Educational Programme from the EYFS framework: 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.

		Cooking and Nutrition	Design: Developing, planning and communicating ideas	Make	Evaluate	ELG
Progression steps to enable typical progression within this concept	Birth – 3	<ul style="list-style-type: none"> Know the importance of washing hands & cleaning surfaces. Discuss the rules of food safety and hygiene. 	<ul style="list-style-type: none"> Explore different materials, using their senses to investigate them. Use their imagination as they consider what they can do with different materials. 	<ul style="list-style-type: none"> Manipulate and play with different materials. Make simple models which express their ideas. 	<ul style="list-style-type: none"> Begin to talk about what they have made. 	<p>Children at the expected level of development will</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; - Make use of props and materials when role playing characters in narratives and stories.</p>
	3-4 yrs	<ul style="list-style-type: none"> Begins to talk about and make healthy choices about food, drink, activity and toothbrushing. Use tools for a purpose. Explore and develop skills in: mixing and decorating. Begin to think of interesting ways to decorate food. Know the importance of washing hands and cleaning surfaces. 	<ul style="list-style-type: none"> Develop their own ideas and then decide which materials to use to express them. Explore different materials freely, in order to develop their ideas about how to use them and what to make. 	<ul style="list-style-type: none"> Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Uses various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces Uses tools for a purpose 	<ul style="list-style-type: none"> Begin to talk about what they like about their creations. Begin to talk about what they like about other people creations. 	
	Reception	<ul style="list-style-type: none"> Talk about healthy and unhealthy foods. Talk about having a balance of these. Talk about likes and dislikes. Use a range of tools with care and precision. Explore and develop skills in: mixing and decorating. Continue to think of interesting 	<ul style="list-style-type: none"> Provide opportunities to work together to develop creative ideas. Encourage them to think about and discuss what they want to make. Look at products to generate inspiration and conversation about art and artists. Generate ideas to create a model. 	<ul style="list-style-type: none"> Provide children with a range of materials for children to construct with. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. 	<ul style="list-style-type: none"> Discuss problems and how they might be solved as they arise. Reflect with children on how they have achieved their aims. Talk about what they have produced, describing simple techniques, tools and materials used. 	





Design and Technology Overview

		<ul style="list-style-type: none">ways to decorate food.Describe differences between some food groups (i.e. sweet, vegetable etc.).Say where some foods come from, (i.e. plant or animal).Describe textures, tastes and preferences of a variety of foods.Know the importance of washing hands and cleaning surfaces.Discuss the rules of food safety and hygiene.		<ul style="list-style-type: none">Provide a range of materials and tools and teach children to use them with care and precision.	<ul style="list-style-type: none">Orally suggest what went well and any improvements they would make to their creation.Offer suggestions to others on how they could have improved their products.		
--	--	---	--	--	---	--	--


Design and Technology Overview

Year	Curriculum Drivers		Disciplinary Knowledge	
	Sustainability, Knowledge, Legacy, Partnership, Equality, Innovation		Mastering techniques, cause and effect, problem solving, designing, making and evaluating,	
	Autumn	Spring	Summer	
1	<u>Fruit - Cooking and Nutrition</u> What is a fruit and where do they come from?	<u>Free Standing - Structures</u> Can I design, make and evaluate a new desirable playground for my local community to promote inclusion and physical wellbeing in young people.	<u>Sliders and Levers - Mechanisms</u> Can I design, make and evaluate a class information book to help explain to Reception class how to save energy, recycle and look after the planet?	
	 Good sanitation and hygiene.  Know the nutritional benefits and sources of a variety of food.  Prevent food waste.	 That cities and communities should be safe and inclusive.  Understand a variety of ways to improve their own and other people's well-being.	 To understand the need to save energy.	
	<ul style="list-style-type: none"> To know the basic rules of kitchen safety. To know and recognise at least 10 fruits. To know what makes an item a fruit. 	<ul style="list-style-type: none"> To know what a free-standing structure is. To know how to make a structure stable To know that an accurate drawing is important when designing a product. 	<ul style="list-style-type: none"> Know what a lever/slider is. To know what a mechanism is. To know the importance of recycling and saving energy. To know that different mechanisms produce different types of movement. 	
	<u>Food Preparation and Cooking</u> <u>Outcomes</u> Explore and develop skills in - Cutting - Peeling - Mixing - Blending <u>Designing, Making and Evaluating Food Outcomes</u>	<u>Research</u> Explore local playground and relevant equipment <u>Designing</u> <ul style="list-style-type: none"> Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings. <u>Making</u>	<u>Research (Link to SDG)</u> <ul style="list-style-type: none"> Explore the reasons why it is important to save energy in our homes and at school. Explore the variety of ways we can save energy at home and at school. <u>Designing</u> <ul style="list-style-type: none"> Generate ideas based on simple design criteria. Communicate and develop their ideas through drawings. 	






Design and Technology Overview

	<ul style="list-style-type: none"> Begin to design and create appealing products based on some simple design criteria. Begin to learn how to evaluate their product. Design food that is visually appealing. <p><u>Nutrition Outcomes</u></p> <ul style="list-style-type: none"> Begin to know the properties of ingredients and the importance of varied diet. Explain how food and drink are needed for active/healthy bodies. <p><u>Consumer awareness Outcomes</u></p> <ul style="list-style-type: none"> Understand how a variety of food is grown and where their ingredients have come from. Know that a variety of factors makes food appealing. <p><u>Food Safety and Hygiene Outcomes</u></p> <ul style="list-style-type: none"> Explain hygiene and keep a hygienic kitchen. Know when to ask for adult help to assist in cooking and preparing food. <p>SG 6: Good sanitation and hygiene. SG 2: Know the nutritional benefits and sources of a variety of food. SG 12: Prevent food waste.</p>	<ul style="list-style-type: none"> Plan by suggesting what to do next. Select and use tools, skills and techniques suitable for the task, 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><u>Evaluating</u></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. 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><u>Technical knowledge and understanding</u></p> <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. <p>SG 3: Understand a variety of ways to improve their own and other people's well-being.</p>	<p><u>Making</u></p> <ul style="list-style-type: none"> Plan by suggesting what to do next. Explore using sliders and levers. Select and use tools suitable for the task. Use simple finishing techniques. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Explore a range of existing books and everyday products that use simple sliders and levers. Evaluate their product by discussing how well it works in relation to the purpose and whether it meets design criteria. <p>SG 7: To understand the need to save energy.</p>
2	<p><u>Templates and Joining - Textiles</u></p> <p>Can I design, Make and Evaluate a glove puppet for themselves to promote mental health through role play?</p>	<p><u>Wheels and Axles - Mechanisms</u></p> <p>Can I design, make and evaluate a stable vehicle for a rural family to transport water over large distances?</p>	<p><u>Vegetables - Cooking and Nutrition</u></p> <p>What is a vegetable?</p>
	 <p>Understand a variety of ways to improve their own and other people's well-being.</p>	 <p>Every person has access to clean, safe water.</p>	 <p>Good sanitation and hygiene.</p>  <p>Know the nutritional benefits and sources of a variety of food.</p>

Design and Technology Overview

			 <p>Prevent food waste.</p>
<ul style="list-style-type: none"> To know appropriate ways to join fabric. To know what a template it. To know ways to embroider/decorate their product. 	<ul style="list-style-type: none"> Know what an axle is and its function. To know that wheels and axles can be assembled in different ways. To know what a chassis is and its function. 	<ul style="list-style-type: none"> Recognise at least 20 vegetables. Know what makes an item a 'vegetable'. Know what the 'Eat-well' plate is and recommended proportions of food consumed. Know that different fruit and vegetables grow in different seasons. 	
<p><u>Research (link to SDG)</u></p> <ul style="list-style-type: none"> Children explore the importance of mental health. Children know that good mental health is beneficial to their well-being. <p><u>Designing</u></p> <ul style="list-style-type: none"> Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates <p><u>Making</u></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><u>Evaluating</u></p> <ul style="list-style-type: none"> Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. 	<p><u>Research (Link to SDG)</u></p> <ul style="list-style-type: none"> Understand the differing needs around the world to transport water for personal consumption. Explore the efficiency of using a vehicle rather than carrying. <p><u>Designing</u></p> <ul style="list-style-type: none"> Generate initial ideas using simple design criteria. Develop and communicate ideas through annotated drawings. <p><u>Making</u></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. Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Explore and evaluate a range of products with wheels and axles. Evaluate their ideas and their products against design criteria. Suggest improvements to their product <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. 	<p><u>Food Preparation and Cooking</u></p> <p><u>Outcomes</u></p> <p>Explore and develop skills in</p> <ul style="list-style-type: none"> - Cutting/chopping - Peeling - Mashing - Grating - Mixing - Heating <p><u>Designing, Making and Evaluating Food Outcomes</u></p> <ul style="list-style-type: none"> Make products look attractive. Carefully select ingredients considering taste and texture. Evaluate products made based on their own likes/dislikes. <p><u>Nutrition</u></p> <p><u>Outcomes</u></p> <ul style="list-style-type: none"> Describe how healthy diet= variety/balance of food/drinks. Think about how to grow plants to use in cooking. Explore eat well plate; explain there are groups of food, describe "five a day". <p><u>Consumer awareness</u></p> <p><u>Outcomes</u></p> <ul style="list-style-type: none"> Begin to understand food comes from UK and wider world, needing different environments/climate. Explore branding of food and drink products. Begin to explore the seasonality of food. 	






Design and Technology Overview

	<ul style="list-style-type: none"> Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project. <p>SG 3: Understand a variety of ways to improve their own and other people's well-being.</p>	<ul style="list-style-type: none"> Know and use technical vocabulary relevant to the project. <p>SG 6: Every person has access to clean, safe water.</p>	<p><u>Food Safety and Hygiene</u></p> <p><u>Outcomes</u></p> <ul style="list-style-type: none"> Use a greater variety of equipment safely including asking for help when heating or preparing food. Explain the basics of food hygiene including clean hands, surfaces, hair, jewelry, nail varnish. <p>SG 6: Good sanitation and hygiene. SG 2: Know the nutritional benefits and sources of a variety of food. SG 12: Prevent food waste.</p>
3	<p><u>Levers, Linkages and Pneumatics - Mechanisms</u></p> <p>Can I design, make and evaluate a water cleaning system for you to remove plastics and rubbish from the oceans and move them to an appropriate recycling facility?</p>	<p><u>Carbohydrates - Cooking and Nutrition</u></p> <p>What is a carbohydrate?</p>	<p><u>2D shape to 3D project – Textiles</u></p> <p>Can I design, make and evaluate a new repurposed product from a second-hand pillowcase to promote a sustainable culture?</p>
	 <p>Reduce and prevent pollution Protect ecosystems Take action to restore healthy and productive oceans.</p>	 <p>Good sanitation and hygiene.</p>  <p>Know the nutritional benefits and sources of a variety of food.</p>  <p>Prevent food waste.</p>	 <p>Understand the importance of reduce, reuse, recycle.</p>
	<ul style="list-style-type: none"> To know what a pivot, pneumatic and hydraulic mechanism is, and how they are used To know what a lever and linkage is. To know what a prototype is. To know who Boyan Slat is and what he invented? To know the design process. 	<ul style="list-style-type: none"> To know what a carbohydrate is. To know what a consumer is. To know different foods, have a different cost and come from different places. To know the importance of how to be safe and hygienic To know key ingredients can be exchanged. To know an increased variety of cooking techniques. 	<ul style="list-style-type: none"> To know that materials can be recycled into new products. To know a range of different fastenings and how to join them. To know a variety of stitches. To know the design process. To know what a template is and how to use it.
	<p><u>Research (Link to SDG)</u></p> <ul style="list-style-type: none"> Explore the need to protect our oceans ecosystems and reduce/prevent pollution. 	<p><u>Food Preparation and Cooking</u></p> <p><u>Outcomes</u></p> <p>Explore and develop skills in</p> <ul style="list-style-type: none"> - Cutting/slicing - Peeling 	<p><u>Research (Link to SDG)</u></p> <ul style="list-style-type: none"> To know the impact of the fabric industry on the planet. To know the difference between recycling, repurposing and upcycling

Design and Technology Overview

	<ul style="list-style-type: none"> Know that designers (like Boyan Slat) are currently designing mechanisms to remove plastics from the world's oceans and waterways. <p><u>Designing</u></p> <ul style="list-style-type: none"> Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> Order the main stages of making. Select from and use appropriate tools with some accuracy to cut, shape and join materials and components such as card, paper, tubing, syringes and balloons. Select from and use finishing techniques suitable for the product they are creating. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Investigate and analyse prototypes and, where available, other products with lever and linkage mechanisms and pneumatic mechanisms. Evaluate their own products and ideas against criteria and user needs. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Understand and use pneumatic mechanisms. Know and use technical vocabulary relevant to the project. <p>SG 14: Reduce and prevent pollution. Protect ecosystems. SG 14: Take action to restore healthy and productive oceans.</p>	<ul style="list-style-type: none"> Mixing Blending Grating Kneading Baking Weighing and measuring <p><u>Designing, Making and Evaluating Food Outcomes</u></p> <ul style="list-style-type: none"> Think about presenting product in interesting/ attractive ways. Explore how using different ingredients and methods can change the taste/texture of products. Evaluate products made by themselves and others. <p><u>Nutrition Outcomes</u></p> <ul style="list-style-type: none"> Describe eat well plate and how a healthy diet=variety / balance of food and drinks. Explain importance of food and drink for active, healthy bodies. <p><u>Consumer awareness Outcomes</u></p> <ul style="list-style-type: none"> Explore the reason for consumer choices Begin to know that food is marketed specifically at consumers. <p><u>Food Safety and Hygiene Outcomes</u></p> <ul style="list-style-type: none"> Know the importance of how to be safe/hygienic. Understand how to use a greater variety of kitchen equipment safely. Understand that food allergies affect safe food preparation. <p>SG 6: Good sanitation and hygiene. SG 2: Know the nutritional benefits and sources of a variety of food. SG 12: Prevent food waste.</p>	<p><u>Designing</u></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 annotated sketches, prototypes, final product sketches and pattern pieces. <p><u>Making</u></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, stitches and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Investigate a range of 3-D textile products relevant to the project. Test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to join two pieces of fabric together securely. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project. <p>SG 12: Understand the importance of reduce, reuse, recycle.</p>
--	--	---	---






Design and Technology Overview

4	<u>Shell - Structures</u> Can I design, make and evaluate a recycling station for your classroom to ensure appropriate recycling of all different items?	<u>Dairy, Fats and Sugar - Cooking and Nutrition</u> What are dairy, fats and sugars used for?	<u>Circuits and Switches – Electrical</u> Can I design, make and evaluate a product that incorporates an electrical circuit to aid everyday living?
	 <p>Understand the importance of reduce, reuse, recycle.</p>	 <p>Good sanitation and hygiene.</p>  <p>Know the nutritional benefits and sources of a variety of food.</p>  <p>Prevent food waste.</p>	 <p>Equal opportunities for all.</p>
	<ul style="list-style-type: none"> To know what items can be recycled. To know how to design a functional product that is fit for purpose. To know how to accurately construct a net. To know different ways of attaching materials. 	<ul style="list-style-type: none"> To know how to cook a variety of dishes that are made from dairy products. To know different sources of fat, and determine whether it comes from an animal or a plant. To know the correct terminology for a large variety of cookery processes. To know the dangers associated with storage and re-heating food. To know what processed food is. To know the effects of sugar. 	<ul style="list-style-type: none"> Know what a circuit is. Know what a prototype is and how it is integral to the design process. Know that there are a variety of switch styles available (push to make, push to break, toggle) and know how each works. Know the dangers of mains electricity. Know what a cross sectional drawing is. Know we can be innovative in solving everyday problems
	<u>Research</u> <ul style="list-style-type: none"> Understand the impact of waste and the importance of recycling. Investigate a variety of structures used for collecting waste. Investigate net structures <u>Designing</u> <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. 	<u>Food Preparation and Cooking</u> <u>Outcomes</u> Explore and develop skills in <ul style="list-style-type: none"> - Slicing/dicing - Peeling - Mixing - Blending - Grating - Kneading - Baking - Weighing and measuring 	<u>Research</u> <ul style="list-style-type: none"> Understand the significance of sight loss and its impact on daily tasks Know how innovative designs can reduce inequalities. <u>Designing</u> <ul style="list-style-type: none"> Gather information about users' needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.

Design and Technology Overview

<ul style="list-style-type: none"> Develop ideas through the analysis of existing products and use annotated sketches and deconstructed models to communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> Order the main stages of making. 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><u>Evaluating</u></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. Test and evaluate their own products against design criteria and the intended user and purpose. <p><u>Technical knowledge and understanding</u></p> <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. Know and use technical vocabulary relevant to the project. <p>SG 12: Understand the importance of reduce, reuse, recycle.</p>	<ul style="list-style-type: none"> - Rolling - Whisking - Frying/grilling <p><u>Designing, Making and Evaluating Food Outcomes</u></p> <ul style="list-style-type: none"> Know that preparing foods in different ways produces a variety of outcomes, in terms of appearance and appeal. Use a greater variety of preparation techniques. Design, make and evaluate products made by themselves. Evaluate products made by themselves and others, offering suggestions for improvement. <p><u>Nutrition Outcomes</u></p> <ul style="list-style-type: none"> Know that different foods affect bodily and oral health. Know that some people have allergies or intolerances to specific foods or food groups. Explore how food contains different amounts of energy, knowing which foods are energy dense. <p><u>Consumer awareness Outcomes</u></p> <ul style="list-style-type: none"> Explore an understanding that food is grown, reared or caught in the UK or wider world and brought to the UK. Understand ingredients can be fresh, pre-cooked or processed. Develop an understanding of consumer choices. Explore understanding of portion size. <p><u>Food Safety and Hygiene Outcomes</u></p> <ul style="list-style-type: none"> Explain how to be safe / hygienic and follow guidelines. Understand that food allergies affect safe food preparation. Know that food packaging and labels provide a source of information to keep us safe relating to allergens, storage and heating. 	<ul style="list-style-type: none"> Generate, develop, model and communicate realistic ideas through discussion, annotated sketches and cross-sectional <p><u>Making</u></p> <ul style="list-style-type: none"> Order the main stages of making. Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Connect simple electrical components and a battery in a series circuit to achieve a functional outcome. Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Investigate and analyse a range of existing battery-powered products. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. Know and use technical vocabulary relevant to the project. <p>SG 10: Equal opportunities for all.</p>
--	---	--




Design and Technology Overview

		<p>SG 6: Good sanitation and hygiene.</p> <p>SG 2: Know the nutritional benefits and sources of a variety of food.</p> <p>SG 12: Prevent food waste.</p>	
5	<p><u>Combining different fabrics and shapes - Textiles</u></p> <p>Can I design, make and evaluate a 'fidget' blanket for someone with Alzheimer's/autism to help relieve anxiety or agitation and to aid a feeling of calmness?</p>	<p><u>Herbs and Spices - Cooking and Nutrition</u></p> <p>What are herbs and spices used for?</p>	<p><u>Frame – Structures</u></p> <p>Can I design, make and evaluate a system of flood defense for a rural islander to keep themselves safe from flood dangers?</p>
	 <p>Understand a variety of ways to improve their own and other people's well-being.</p>	 <p>Prevent food waste.</p>  <p>Know the nutritional benefits and sources of a variety of food.</p>  <p>Fairtrade.</p>	 <p>Make cities resilient to disasters and ensure less people die from global disasters.</p>
	<ul style="list-style-type: none"> To know a range of stitches and joining techniques. To know how to use sketches to convey their design choice to others. To know that fabric can be stiffened and strengthened To know how design criteria supports the making process. 	<ul style="list-style-type: none"> To know the name for different cooking methods. To know the correlation between seasonality, location and cost of foods. To know food can travel far and this impacts the cost/climate. To know what Fairtrade is. To know the names of at least 8 herbs and spices and their effect upon a dish. 	<ul style="list-style-type: none"> To know and name structures that use internal and external frames. To know what tension and compression are and how they support structures To know that using different materials will produce a different effect/product. To know how the functional property of the materials informs design choices. To know how to strengthen, stiffen and reinforce complex structures.
	<p><u>Research (Link to SDG)</u></p> <ul style="list-style-type: none"> To know, as a society that we are responsible for each other. Explore purpose and functions of a 'fidget' blanket and identify its intended users. <p><u>Designing</u></p>	<p><u>Food Preparation and Cooking</u></p> <p><u>Outcomes</u></p> <p>Explore and develop skills in</p> <ul style="list-style-type: none"> - Slicing/dicing/julienne - Peeling - Mixing/Blending 	<p><u>Research</u></p> <p>Explore a variety of materials and their uses.</p> <p><u>Designing</u></p>

Design and Technology Overview

<ul style="list-style-type: none"> • Generate innovative ideas by carrying out research including interviews. • Develop, model and communicate ideas through talking, drawing, and annotating designs. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design criteria. <p><u>Making</u></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. • Select appropriate stitches, joining techniques and fastenings appropriate to their design • Work within the constraints of time, resources and cost. • Adjust their ongoing work and make changes to overcome problems. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> • Investigate and analyse textile products linked to their final product. • Compare the final product to the original design criteria. • 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. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Know that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Know that fabrics can be strengthened, stiffened and reinforced where appropriate. <p>SG 5: Understand a variety of ways to improve their own and other people's well-being.</p>	<ul style="list-style-type: none"> - Grating - Baking - Weighing and measuring - Rolling/folding - Frying/boiling/reducing - Seasoning <p><u>Designing, Making and Evaluating Food Outcomes</u></p> <ul style="list-style-type: none"> • Present product well - interesting, attractive, fit for purpose • Describe how recipes can be adapted to change appearance, taste, texture, aroma • Consider how cost of ingredients impacts choices • Evaluate products made by themselves and others, offering suggestions for improvement and alternatives <p><u>Nutrition Outcomes</u></p> <ul style="list-style-type: none"> • Explain how there are different substances in food / drink needed for nutrition and health • Consider the nutritional benefits of food products designed and made <p><u>Consumer awareness Outcomes</u></p> <ul style="list-style-type: none"> • Explain seasonality of foods, and how this can affect cost and choices • Explore and understand the concept of 'Fairtrade' • Know that the aesthetics of food (look, taste, aroma) can make it more or less appealing to a consumer • Explain importance of portion size in relation to health and a balanced diet <p><u>Food Safety and Hygiene Outcomes</u></p> <ul style="list-style-type: none"> • Consistently prepare and cook dishes safely and hygienically including, where appropriate, using a heat source. <p>SG 12: Prevent food waste.</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><u>Making</u></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><u>Evaluating</u></p> <ul style="list-style-type: none"> • Investigate and evaluate a range of existing frame structures. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Research key events and individuals relevant to frame structures. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project. <p>SG 11: Make cities resilient to disasters and ensure less people die from global disasters.</p>
---	---	---

Design and Technology Overview

		<p>SG 2: Know the nutritional benefits and sources of a variety of food.</p> <p>SG 9: Fairtrade.</p>	
6	<p>Meat/Fish Alternatives - Cooking and Nutrition</p> <p>What are the alternatives to eating meat and fish?</p>	<p>Mechanisms – Rube Goldberg Machines</p> <p>Can I design, make and evaluate a machine that combines all the mechanisms you have learnt to perform a simple task?</p>	<p>Pulleys, Gears and Cams - Mechanisms</p> <p>Can I work as a team to design and make all the elements of a successful racing team The RIVERS Boxcar Rally?</p>
	<div>  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> </div> <p>Live in harmony with nature.</p> <div>  <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> </div> <p>That communities should be resilient and sustainable.</p> <div>  <p>2 ZERO HUNGER</p> </div> <p>Know the nutritional benefits and sources of a variety of food and their alternatives.</p> <p>How to support local farmers and producers.</p>		
	<ul style="list-style-type: none"> To know that food is caught, reared and farmed for human consumption. To know where to gain information from food packaging and what it means. To know the names of 5 alternatives to meat and fish. To know that recipes can be adapted to be more sustainable. 	<ul style="list-style-type: none"> To know a machine is a device that does a physical task To know who Rube Goldberg is and what he did To know how to sequence different machines to perform a simple task To know and use a variety of advanced tools for construction. 	<ul style="list-style-type: none"> To know and use a variety of advanced tools for construction. To know a machine is a device that does a physical task. Know how a prototype affects design choices.
	<p><u>Food Preparation and Cooking</u></p> <p><u>Outcomes</u></p> <p>Explore and develop skills in</p> <ul style="list-style-type: none"> - Slicing/dicing/julienne - Peeling - Mixing/Blending/ Combining - Mashing - Grating - Baking/frying/grilling - Weighing and measuring - Frying/boiling/reducing 	<p><u>Research</u></p> <ul style="list-style-type: none"> Explore the functions and purpose of a variety of simple machines. Who is Rube Goldberg? <p><u>Designing</u></p> <ul style="list-style-type: none"> Generate, develop and communicate ideas through discussion, annotated sketches, exploded diagrams and drawings from different views of mechanical diagrams. <p><u>Making</u></p>	<p><u>Research</u></p> <p>Structures, steering mechanisms, food technology and textiles to design and create an appropriate product for your team.</p> <p><u>Designing</u></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

Design and Technology Overview

<ul style="list-style-type: none"> - Seasoning - Piping - Saut��ing/softening <p><u>Designing, Making and Evaluating Food Outcomes</u></p> <ul style="list-style-type: none"> • Present product to a high standard to make the product interesting and aesthetically pleasing • Adapt recipes by substituting ingredients to make them more sustainable • Critically evaluate their own products and those of others. • Consider how cost, nutritional value, source and sustainability of products impacts choices <p><u>Nutrition Outcomes</u></p> <ul style="list-style-type: none"> • Describe some of the different substances in food and drink, and how they can affect health • Know the importance of a balanced, nutritious diet <p><u>Consumer awareness Outcomes</u></p> <ul style="list-style-type: none"> • Explain why some types of food are grown, reared or caught in the UK or wider world. • Explore sustainability of foods and how our choices affect the environment. • Understand the concept of being an ‘informed consumer’ using food packaging to understand more about the food contained. <p><u>Food Safety and Hygiene Outcomes</u></p> <ul style="list-style-type: none"> • Consistently prepare and cook dishes safely and hygienically considering the implications of reheating. • Know that cooked, fresh, processed and packaged food has a shelf life. • Understand the dangers of poor kitchen practices and resulting effects including food poisoning. <p>SG 12: Live in harmony with nature. SG 11: That communities should be resilient and sustainable.</p>	<ul style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. • Use given materials and apply engineering skills to create a physical, functioning machine that completes a specified goal <p><u>Evaluating</u></p> <ul style="list-style-type: none"> • Continually evaluate and modify the working features of the product to match the initial design specification. • Justify design decisions based upon original purpose and user. • Compare the final product to the original design specification. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Understand that mechanical systems have an input, process and an output. • Know and use technical vocabulary relevant to the project. • Comment on and give an opinion on designs with a fluent grasp of technical language. 	<p>different views.</p> <p><u>Making</u></p> <ul style="list-style-type: none"> • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p><u>Evaluating</u></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. • Investigate famous manufacturing and engineering companies relevant to the project <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gear sand pulleys can be used to speed up, slow down or change the direction of movement. • Understand how cams can be used to produce different types of movement and change the direction of movement. • Know and use technical vocabulary relevant to the project.
--	---	---

Design and Technology Overview

	SG 2: Know the nutritional benefits and sources of a variety of food and their alternatives. How to support local farmers and producers.		
--	---	--	--