

Design and Technology Progression of Skills EYFS - Y6

	EYFS	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Thread	<p>Early Learning Goal:</p> <p><u>Technology:</u></p> <ul style="list-style-type: none"> Recognise a range of technology is used in places such as homes and schools <p><u>Expressive arts and design</u></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. <p><u>Being imaginative</u></p> <ul style="list-style-type: none"> Use what they have learnt about media and materials in original ways, thinking about uses and purposes. 	<p><u>Design</u></p> <ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p><u>Make</u></p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p><u>Evaluate</u></p> <ul style="list-style-type: none"> Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria <p><u>Technical knowledge</u></p> <ul style="list-style-type: none"> 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. 	<p><u>Design</u></p> <ul style="list-style-type: none"> Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p><u>Make</u></p> <ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p><u>Evaluate</u></p> <ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world <p><u>Technical knowledge</u></p> <ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products. 	

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> Represent own ideas, thoughts and feelings through design and technology. <p><u><i>Health and self-care</i></u></p> <ul style="list-style-type: none"> Understand the importance of a healthy diet Talk about ways to keep healthy and safe. 	<p><u><i>Cooking and nutrition</i></u></p> <ul style="list-style-type: none"> Use basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. 		<p><u><i>Cooking and nutrition</i></u></p> <ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet (Covered in PSHE) Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Developing, planning and communicating ideas.	<ul style="list-style-type: none"> Explain what they are making and which materials they are using. Select materials from a limited range that will meet a simple design criteria e.g shiny Selected and name the tools needed to work the 	<ul style="list-style-type: none"> Begin to draw on their own experience to help generate ideas and research conducted on criteria. Begin to understand the development of existing products. Explain what 	<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 	<ul style="list-style-type: none"> Develop and communicate ideas. Start to order the main stages of making a product. Understand how well made products have been designed, made, what materials have been 	<ul style="list-style-type: none"> Generate and clarify ideas through discussion with peers to develop design of products that are fit for purpose, aimed at particular individuals or groups. Use annotated sketches and 	<ul style="list-style-type: none"> Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern 	<ul style="list-style-type: none"> Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern

Design and Technology Progression of Skills EYFS - Y6

	<p>materials e.g scissors for paper</p> <ul style="list-style-type: none"> ▪ Explore ideas by rearranging materials ▪ Describe simple models or drawing of ideas and intentions. ▪ Discuss their work as it progresses 	<p>they are for, how they work, what materials have been used.</p> <ul style="list-style-type: none"> ▪ Start to suggest ideas and explain what they are going to do. ▪ Design appealing products for a particular user based on simple design criteria. ▪ Generate initial ideas and design criteria through own experiences. ▪ Develop and communicate those ideas through talk and drawings and mock 	<p>and drawings.</p> <ul style="list-style-type: none"> ▪ Develop their ideas through talk and drawings and labelled parts. ▪ Make templates and mock ups of their ideas in card and paper or using ICT. ▪ Begin to explain why they chose a certain material. ▪ Develop their own ideas from given starting points. 	<p>used and the construction technique.</p> <ul style="list-style-type: none"> ▪ Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. ▪ Explain their choice of materials and components including function and aesthetics. ▪ Put together a step by step plan. 	<p>appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <ul style="list-style-type: none"> ▪ Generate, develop, model and communicate realistic ideas through discussion and , as appropriate, annotated sketches, cross sectional and exploded diagrams. ▪ Develop a clear idea of what has to be done, planning how to use materials, 	<p>pieces and CAD.</p> <ul style="list-style-type: none"> ▪ Generate innovative ideas through research including surveys, interviews and questionnaires and discussion with peers to develop a design brief and criteria for a design specification. ▪ Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification 	<p>pieces and CAD.</p> <ul style="list-style-type: none"> ▪ Use research using surveys, interviews, questionnaire and web based resources, to develop a design specification for a range of functional products. ▪ Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. ▪ Generate and develop innovative ideas and
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Design and Technology Progression of Skills EYFS - Y6

		<p>ups where relevant.</p> <ul style="list-style-type: none"> ▪ Make templates and mock ups of their ideas in card and paper or using ICT. ▪ Communicate with others how they want to construct their product. ▪ Explain how they intend to fix simple materials. ▪ 			<p>equipment and processes and suggesting alternative methods of making, if the first attempts fail.</p> <ul style="list-style-type: none"> ▪ Identify the strengths and areas for development in their ideas and products. ▪ Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. ▪ Consider how to present their product in an interesting way. 	<ul style="list-style-type: none"> ▪ With growing confidence apply a range of finishing techniques, including those from art. ▪ Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose. ▪ Suggest some alternative plans and say what the good points and drawbacks 	<p>share and clarify these through discussion.</p> <ul style="list-style-type: none"> ▪ Communicate ideas through annotated sketches, pictorial representations. ▪ Suggest some alternative plans and say what the good points and drawbacks are about each. ▪ Show consideration to culture and society in a design. ▪ Work within a given budget. ▪ Suggest ideas how their product could be sold.
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Design and Technology Progression of Skills EYFS - Y6

					<ul style="list-style-type: none"> Produce a plan and explain it to others. 	are about each. Product a detailed step by step plan.	Use market research to inform plans.
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working with tools, equipment, materials and components to make quality products.	<ul style="list-style-type: none"> Begin to create their design using basic techniques. Start to build structures, joining components together. Look at simple hinges, wheels and axles. Use technical vocabulary when appropriate Begin to use scissors to cut straight and curved edges and hole punches to punch holes. Explore using/holding 	<ul style="list-style-type: none"> Select and use simple utensils, tools and equipment to perform a job e.g peel, cut, slice, squeeze, grate and chop safely. Begin to make their design using appropriate techniques. Begin to build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (levers, sliders, 	<ul style="list-style-type: none"> Plan by suggesting what to do next. Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices. Select new and old materials, components, reclaimed materials and construction kits to build and create their products. 	<ul style="list-style-type: none"> Plan the main stages of making. Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product. Select from and use finishing techniques suitable for the product they are creating. 	<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 combine with some accuracy related to their products. Explain their choice of materials according to functional properties and aesthetic qualities. Select from and use materials and components, including 	<ul style="list-style-type: none"> Produce detailed lists of equipment and fabrics relevant to their tasks. Write a step-by Step plan, including a list of resources required. Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources. 	<ul style="list-style-type: none"> Formulate a step by step plan to guide making, listing tools, equipment, materials and components. Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials and securely connect electrical components to produce reliable, functional products. Use finishing and

Design and Technology Progression of Skills EYFS - Y6

	<p>basic tools such as a saw or hammer.</p> <ul style="list-style-type: none"> ▪ Use adhesives to join materials. 	<p>wheels and axles) in products.</p> <ul style="list-style-type: none"> ▪ With help measure, mark out, cut and shape a range of materials. ▪ Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g glues or tape. ▪ Make a product which moves. 	<ul style="list-style-type: none"> ▪ Use simple finishing techniques suitable for the products they are creating. ▪ Be able to join things (materials and components) together in different ways. ▪ Attach features to a vehicle (e.g axel and wheels). ▪ Join fabric using a running stitch, glue and tape. 		<p>ingredients, construction and electrical componenets according to their function and properties.</p> <ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ Understand how mechanical systems such as cams or pulleys or gears create movement. ▪ Make up a prototype first. ▪ Measurement accurately to ensure that everything is precise. ▪ Demonstrate motivation/perseverance to refine and improve their products. ▪ Use a glue gun with supervision. 	<p>decorative techniques suitable for the product they are designing and making.</p> <ul style="list-style-type: none"> ▪ Understand how mechanical systems such as cams or pulleys or gears create movements. ▪ Know how to reinforce and strengthen a 3D framework. ▪ Use a craft knife, cutting mats and ruler with supervision. ▪ Make decisions and select the most appropriate mechanical system for a
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Design and Technology Progression of Skills EYFS - Y6

							particular purpose.
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluating	<ul style="list-style-type: none"> Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and identify good and bad points Start to talk about changes made during the making process. Discuss how closely their finished products meet their design criteria. 	<ul style="list-style-type: none"> Taste, explore and evaluate a range of products to determine the intended user's preferences for the product. Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose and suggest possible changes for next time. When looking at existing products explain what they like and dislike about products and why. 	<ul style="list-style-type: none"> Explore a range of existing products and explain what they like and dislike and why. Evaluate their product by discussing how well it works in relation to the purpose the user and whether it meets the original design criteria. 	<ul style="list-style-type: none"> Investigate a range of 3-D textile product, ingredients and lever and linkage products relevant to their project. Test their product against the original design criteria and with the intended user. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. Begin to disassemble and evaluate familiar 	<ul style="list-style-type: none"> Evaluate their work both during and at the end of the assignment, carrying out appropriate tests. Investigate and evaluate a range of products including the ingredients, materials, components, and techniques that are used. Text and evaluate their own products against design criteria and the intended user and purpose. Evaluate their ideas and products against their own design 	<ul style="list-style-type: none"> Evaluate their work both during and at the end of the assignment, carrying out appropriate tests. Evaluate how the key designs of individuals in design and technology have helped shape the world. Investigate and analyse products linked to their final product. Compare the final product to the original design specification and record the evaluations 	<ul style="list-style-type: none"> Evaluate their work both during and at the end of the assignment, carrying out appropriate tests. Evaluate how the key designs of individuals in design and technology have helped shape the world. Continually evaluate and modify the working features of the products to match the initial design specification. Critically evaluate their products against their design

Design and Technology Progression of Skills EYFS - Y6

				products and consider the views of others to improve them.	criteria and identify the strengths and areas for improvement in their work. <ul style="list-style-type: none">▪ Begin to disassemble and evaluate familiar products and consider the views of others to improve them	<ul style="list-style-type: none">▪ 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.	specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. <ul style="list-style-type: none">▪ Test the system to demonstrate its effectiveness for the intended user and purpose.
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food	<ul style="list-style-type: none">▪ Begin to develop a food vocabulary using taste, smell, texture and feel.▪ Explore familiar food products.▪ Stir, spread, knead and shape a range	<ul style="list-style-type: none">▪ Understand where a range of fruit and vegetables come from.▪ Understand and use basic principles of healthy and varied diet to prepare dishes (Eatwell Plate)▪ Know and use technical and sensory vocabulary.▪ Know how to prepare simple dishes safely and hygienically without using a heat source.▪ Know how to use techniques such as cutting, peeling and grating.		<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.▪ Understand how to prepare and cook a variety of dishes including experience of using a heat source.		<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.▪ Begin to understand that different food and drink contains different substances (nutrients, water and fibre) that are needed for health.	

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> of food and ingredients. ▪ Begin to work safely and hygienically. ▪ Measure and weigh food items, non-statutory measures e.g spoons, cups. 	<ul style="list-style-type: none"> ▪ Measure and weigh food items, non-statutory measures e.g spoons, cups. ▪ Make dishes from other countries. 		<ul style="list-style-type: none"> ▪ Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. ▪ Be able to identify foods which come from the UK and other counties of the world. ▪ Understand what to do to be hygienic and safe. ▪ Measure and weigh ingredients appropriately. 		<ul style="list-style-type: none"> ▪ Describe what to do to be hygienic and safe. ▪ Use appropriate tools and equipment, weighing and measuring with scales. ▪ Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. 	
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Constructi on and structures.	<ul style="list-style-type: none"> ▪ Construct with a purpose in mind, using a variety of resources. ▪ Build and construct a wide range of objects and adapting their work when necessary. ▪ Select the tools and techniques they need to shape, assemble and join materials. ▪ Producing items which 	<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"> ▪ 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. 		<ul style="list-style-type: none"> ▪ Understand how to strengthen, stiffen and reinforce 3D frameworks. ▪ Know and use technical vocabulary relevant to the project. 	

Design and Technology Progression of Skills EYFS - Y6

	represent other objects.						
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles (explored through the Art Progression)	<ul style="list-style-type: none"> Create fabrics by weaving materials i.e. grass through twigs. Enjoy playing with and using a variety of textiles and fabric. Decorate a piece of fabric. Show experience in simple stitch work. Show experience in fabric collage. Use appropriate language to describe colours, media, equipment and textures. Investigating through heuristic play, treasure 	<ul style="list-style-type: none"> Understand how simple 3D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g running stitch, glue, over stitch, stapling. Explore different finishing techniques Know and use technical vocabulary. 		<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. Know and use technical vocabulary. 		<ul style="list-style-type: none"> Produce a 3D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforces where appropriate. Know and use technical vocabulary. 	

Design and Technology Progression of Skills EYFS - Y6

	baskets and collections of natural and manufactured resources.						
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mechanisms.	<ul style="list-style-type: none"> Ask questions about how things move. Deconstruct moving objects for discussion. 	<ul style="list-style-type: none"> Understand that different mechanisms produce different types of movement e.g levers, sliders, wheels and axels. Know and use technical vocabulary. Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. 		<ul style="list-style-type: none"> Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary. 		<ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary. 	
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electrical systems				<ul style="list-style-type: none"> Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products Know and use technical vocabulary. 			

Design and Technology Progression of Skills EYFS - Y6

Our school progression: (Blue= Art/D & T Combined unit)

Reception	<p style="text-align: center;"><u>Throughout the year:</u></p> <p><u>Forest school</u></p> <ul style="list-style-type: none"> • Make rubbings to collect textures and patterns e.g brick, coin • Recognise patterns in the environment • Enjoy using stencils to create a picture. • Create fabrics by weaving materials i.e. grass through twigs. <p><u>Explorative provision</u></p> <p>Enjoy using stencils to create a picture.</p> <ul style="list-style-type: none"> • Enjoy playing with and using a variety of textiles and fabric. • Manipulate malleable materials in a variety of ways including rolling and kneading e.g salt dough. Impress and apply simple decoration. 					
	<p>Autumn: All about me/ Percy the Park keeper</p>		<p>Spring: Transport and Travel Spring: Down on the farm</p>		<p>Summer: Once upon a time.</p>	<p>Summer: Rumble in the jungle.</p>
	<p>Diwali lanterns (construction and structures)</p>	<p>Diwali cooking</p>	<p>Mud hedgehog</p> <p>Chinese dragons</p> <p>Fortune cookies</p> <p>Mask making</p>	<p>Moving pictures (mechanisms)</p>	<p>Junk modelling</p> <p>Hand puppets (Textiles)</p>	<p>Create a habitat for an animal</p>
	<ul style="list-style-type: none"> ▪ Learn about the significance of Diwali lanterns and what they are used for. ▪ Design a Diwali lantern, considering the tools needed. 	<ul style="list-style-type: none"> ▪ Learn about food eaten in the Diwali festival. ▪ Prepare food using tools ▪ Talk about where it was produced / grown. 	<ul style="list-style-type: none"> ▪ Design a mask based on a range of story books ▪ Use a range of cutting skills and adhesive 	<ul style="list-style-type: none"> ▪ Explore models with mechanisms and establish how each one moves different 	<ul style="list-style-type: none"> ▪ Learn about architects and how they build the world around them. ▪ Be given a design brief- a photo of a beach location e.g a seaside town. 	<ul style="list-style-type: none"> ▪ Construct with a purpose in mind, using a variety of resources. ▪ Build and construct a wide range of objects and adapting

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> Construct a lantern (with adult help) Add decoration, following the design and evaluate final product 	<ul style="list-style-type: none"> Use senses to talk about each ingredient Show opinions about the final product. 	<p>skills to join it together.</p> <ul style="list-style-type: none"> Evaluate the use of colours chosen etc Peer assess verbally Prepare food using tools Talk about where it was produced / grown. Use senses to talk about each ingredient Show opinions about the final product. 	<p>because of the design.</p> <ul style="list-style-type: none"> Design and verbally say the tools needed. Explore pre existing hand puppets-verbally say likes and dislikes Design puppet-choosing from a range of materials available, considering the character they are making. Use simple sewing stitch to attach 	<ul style="list-style-type: none"> Design the model Build the model Evaluate and adapt it (with support) Add colour and further detail Evaluate 	<p>their work when necessary.</p> <ul style="list-style-type: none"> Select the tools and techniques they need to shape, assemble and join materials.
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Design and Technology Progression of Skills EYFS - Y6

				<ul style="list-style-type: none"> parts onto the sock. Peer assess Use the socks to tell a story in groups 		
Skills Covered : Mechanisms Textiles Cooking Construction and sculpture	<ul style="list-style-type: none"> Construct with a purpose in mind, using a variety of resources. Build and construct a wide range of objects and adapting their work when necessary Select the tools and techniques they need to shape, assemble and join materials. Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and identify good and bad points Start to build structures, joining components together. Use technical vocabulary when appropriate 	<ul style="list-style-type: none"> Begin to develop a food vocabulary using taste, smell, texture and feel. Explore familiar food products. Stir, spread, knead and shape a range of food and ingredients. Begin to work safely and hygienically. Measure and weigh food items, non-statutory measures e.g spoons, cups. 	<ul style="list-style-type: none"> Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and identify good and bad points Use adhesives to join materials. Select materials from a limited range that will meet a simple design criteria e.g shiny Describe simple models or drawing of ideas and intentions. 	<ul style="list-style-type: none"> Decorate a piece of fabric. Show experience in simple stitch work. Show experience in fabric collage. Use appropriate language to describe colours, media, equipment and textures. Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and 	<ul style="list-style-type: none"> Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and identify good and bad points Use adhesives to join materials. Begin to use scissors to cut straight and curved edges and hole pinches to punch holes. Explore ideas by rearranging materials Discuss their work as it progresses 	<ul style="list-style-type: none"> Ask questions about how things move. Deconstruct moving objects for discussion. Start to talk about changes made during the making process. Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs and identify good and bad points Look at simple hinges, wheels and axles.

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> ▪ Begin to use scissors to cut straight and curved edges and hole punches to punch holes. ▪ Use adhesives to join materials. 			<ul style="list-style-type: none"> ▪ identify good and bad points ▪ Use adhesives to join materials. 		
Year 1	Autumn: Adventurers and Explorers		Spring: Once Upon a time		Summer: Oceans and beaches	
	Construction (mixed with Art element of sculpture).		Mechanisms: balloon cars (old toys)		Cooking	
	<ul style="list-style-type: none"> ▪ Learn about what an 'architect' is and what 'architecture' is and the work of Brunel. ▪ Look at examples of important UK buildings and discuss why they are strong (link to science and materials if appropriate). ▪ Look at features of the school building, sketch and label features (focus on vocabulary). ▪ Introduce the design brief. Design a shelter for somebody/something to live in, considering what would be aesthetically pleasing and strong etc. ▪ Make a mock shelter from paper, consider how to add colour and explore applying. ▪ Make a mock shelter from clay, explore adding detail. ▪ Annotate drawings with improvements in how to make the final structure strong and fitting the design brief. ▪ Children can make their final structure out of a choice of materials. 		<ul style="list-style-type: none"> ▪ Discuss how something moves. ▪ Design axels between two wheels. ▪ Design a balloon car, write a list of components. ▪ Test changing the weight and size of the axel in how well a vehicle moves. <p>https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks2-axles/zmhfvk7</p>		<ul style="list-style-type: none"> ▪ Ice cream (exploring temperatures for Science, weighing) ▪ Learn about the Lithuanian chefs who are exploring unusual/ bizarre flavoured ice cream ▪ Learn about Ruth Graves Wakefield and her pioneering in the 1930s. ▪ Fruit salad (developing skills) 	

Design and Technology Progression of Skills EYFS - Y6

Skills Covered : Mechanisms Cooking Construction and sculpture	<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. With help measure, mark out, cut and shape a range of materials. Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g glues or tape. Evaluate their finished products against design criteria, including intended user and purpose and suggest possible changes for next time. 	<ul style="list-style-type: none"> Understand that different mechanisms produce different types of movement e.g levers, sliders, wheels and axels. Know and use technical vocabulary. Distinguish between fixed and freely moving axles. 	<ul style="list-style-type: none"> Know and use technical and sensory vocabulary. Know how to prepare simple dishes safely and hygienically without using a heat source. Know how to use techniques such as cutting, peeling and grating. Measure and weigh food items, non-statutory measures e.g spoons, cups.
Year 2	Autumn: A Bear named Paddington	Spring: Feeding and Exercise (Science topic)	Summer: An Island Home
	Textiles: Peruvian Arpillera Art	Mechanisms	Construction and structures: Paper Mache Islands (DT and Art combined)
	<ul style="list-style-type: none"> Study the tradition of Arpillera Art and provide an opinion on the finishing techniques. Use a template to create two identical shapes to later applique. Introduce design brief, design an Arpillera scene and write a list of materials needed (ideally design on a computer or gather pictures to replicate) Cut out, glue and sew a scene. Annotate in sketchbook improvements to be made, opinions, materials used and colours. Evaluate final product, comparing to the design brief. 	<ul style="list-style-type: none"> Learn about Ralph Braun- a disabled inventor who designed revolutionary mobility assisted devices. Design a shoe box scene of an animal feeding e.g a bird moving towards a worm. Learn about how to use an axel, lever and a cotton wheel to make the object move right to left. 	<ul style="list-style-type: none"> Learn about: Emonia Lewis- 1844- the first woman of African American heritage to achieve fame for her sculptures. Design a sculpture Create a practice model- adapt designs Use paper mache to form a model. Consider the use of colour/ textures.

Design and Technology Progression of Skills EYFS - Y6

	www.trc-leiden.nl/trc-needles/regional-traditions/middle-and-south-america/arpillera			
Skills Covered : Mechanisms Textiles Construction and sculpture	<ul style="list-style-type: none"> Understand how simple 3D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g running stitch, glue, over stitch, stapling. Explore different finishing techniques Know and use technical vocabulary. 	<ul style="list-style-type: none"> Understand that different mechanisms produce different types of movement e.g levers, sliders, wheels and axels. Know and use technical vocabulary. Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. 	<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. 	
Year 3	Autumn: Stone age to iron age.	Spring: Japan	Summer: Ancient Greece	
	Iron man inspired models	Cooking	Greek inspired toys: mechanisms	Sculpture: soap carving
	<ul style="list-style-type: none"> Research the history of the Iron man, evaluate models created out of different materials e.g metal, wood, plastic. Design an iron man model, specifically stating the materials used and how it will be joined. Make first model, evaluate its strength and consider how it can be improved Adapt model to suit the design brief better. Peer and self assess Create a background (art) for the Iron man to live and create short stories with the models to perform (could link to IT) 	<ul style="list-style-type: none"> Learn about a specific region of Japanese food and 'Washoku' and 'youshoku' style food. Understand the main components of Japanese dishes and compare to English dishes. Plan, prepare and cook a specific Japanese dish and evaluate it. 	<ul style="list-style-type: none"> Children can research toys from the Ancient Greek period, evaluating their uses and comparing to toys today. Learn about levers and linkage mechanisms and if possible 	<ul style="list-style-type: none"> Investigate marble carvings of significant Greek culture, look at similarities and differences between statues and the variant levels of detail. Discuss the difference between soap and marble- in properties and cost.

Design and Technology Progression of Skills EYFS - Y6

			<p>deconstruct a simple toy or object.</p> <ul style="list-style-type: none"> ▪ Learn about a fixed and loose pivot and discuss which type would be needed for a moving part of an object. ▪ After reading the design brief, children need to write a step by step plan, carefully considering the materials they should use to make a moving toy. ▪ Evaluate the finished product against the design criteria. ▪ 	<ul style="list-style-type: none"> ▪ Independent research: children are to use the internet to find a picture to copy. ▪ Practice using a cocktail stick to scratch away the surface of an orange. ▪ Resources: soap, cocktail sticks, plastic knife, picture. Use a cocktail stick to gently carve the shape of the stature, start chipping way small parts at a time. ▪ Begin to carve some features, removing the soap to reveal eyes, nose and mouth. <p>https://www.barlow.derbyshire.sch.uk/greek-soap-sculptures/</p>
Skills Covered : Mechanisms	<ul style="list-style-type: none"> ▪ Develop and use knowledge of how to construct strong, stiff shell structures. 	<ul style="list-style-type: none"> ▪ Know how to use appropriate equipment and utensils to prepare and combine food. 	<ul style="list-style-type: none"> ▪ Understand and use lever and linkage mechanisms. 	<ul style="list-style-type: none"> ▪ Begin to show an awareness of objects having a third

Design and Technology Progression of Skills EYFS - Y6

Cooking Construc tion and sculpture s	<ul style="list-style-type: none"> 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. Investigate and evaluate a range of products including the ingredients, materials, components, and techniques that are used. Text and evaluate their own products against design criteria and the intended user and purpose. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<ul style="list-style-type: none"> 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. Understand how to prepare and cook a variety of dishes including experience of using a heat source. Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Be able to identify foods which come from the UK and other countries of the world. Understand what to do to be hygienic and safe. Measure and weigh ingredients appropriately. 	<ul style="list-style-type: none"> Distinguish between fixed and loose pivots. Know and use technical vocabulary. 	<p>dimension and perspective.</p> <ul style="list-style-type: none"> Learn to secure work to continue at a later date. Shape, form, model and construct from observation or imagination.
Year 4	Autumn: Ancient Egypt	Spring: Rainforest	Summer: Romans	
	Design and make a Canopic Jar <ul style="list-style-type: none"> Learn about the importance of Canopic jars and the materials they can be made from. Evaluate different designs of Canopic Jars to gain understanding of the colour and links to the Gods Design their own Canopic jar 	Electricity Rainforest cooking <ul style="list-style-type: none"> Learn about the food created and harvested in the Rainforest. Create a range of dishes, designed to represent the life of inhabitants of the rainforest. Write safety instructions / risk assessment 	Mosaics/ sculpture of artefacts <ul style="list-style-type: none"> Learn about the history/ purpose of mosaics and artefacts. Learn about Maurice Bennett's creations out of toast. Sculpt an artefact out of clay Design a picture out of mosaics, thinking about tile size etc (repeating patterns) Tile a mosaic border and insert a motif. 	

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> ▪ Use Clay to create the head of the Canopic jar and add paper mache ▪ Add colour, texture to make their models closely linked to historical artefacts ▪ Evaluate final product. 		www.tes.com/teachingresource/roman-mosaics-6056167
Skills Covered : Cooking Construction and sculpture s Electrical systems	<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. ▪ Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products. ▪ Explain their choice of materials according to functional properties and aesthetic qualities. 	<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. ▪ Understand how to prepare and cook a variety of dishes including experience of using a heat source. ▪ Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. ▪ Be able to identify foods which come from the UK and other countries of the world. ▪ Understand what to do to be hygienic and safe. ▪ Measure and weigh ingredients appropriately. 	<ul style="list-style-type: none"> ▪ Gain more confidence in carving as a form of 3D art. ▪ Demonstrate awareness in environmental sculpture and found object art. ▪ Show awareness of the effect of time upon sculptures. ▪ Experiment with a range of collage techniques such as tearing, overlapping and layering to create images and represent textures. ▪ Use collage as a means of collecting ideas and information and building a visual vocabulary.
Year 5	Autumn: Anglo Saxons	Spring: Bunkers, Bombs and the Blitz	Summer: Tale from two Cities

Design and Technology Progression of Skills EYFS - Y6

	Sewing: the Bayeux Tapestry	Designer: Christopher Raeburn Inspired by 'make do and mend'.	Electricity (Geography, DT and STEM)	Mechanisms- toys (cams)
	<ul style="list-style-type: none"> • Learn about the Bayeux Tapestry and the significance to History. • Tea bag/ dye a sheet of card or fabric. • Use fabric/ paper/ ink to create the shapes and add colour. • Add the border using any form of tool. • Use a black pen to add outlines. • Weave or add overstretch to the design. <p>www.twinkl.co.uk/resource/ks2-bayeux-tapestry-art-activity-t-ad-281</p>	<ul style="list-style-type: none"> ▪ Learn about the designer Raeburn and the importance of sustainability. ▪ Compare to WW2 'make do and mend' movement. ▪ Disassemble textile products to understand how they've been constructed. ▪ Design: a bag or pencil case out of scrap material. ▪ Create a mock up version ▪ Form final product. 	<ul style="list-style-type: none"> ▪ Learn about Anna Stork and Andrea Sreshta- designers in response to the Haiti earthquake. ▪ Consider how flooding alarms are used and evaluate their significance / usefulness in different parts of the world. ▪ Learn how to draw electrical symbols. ▪ Design a circuit which when the water level rises, it will light up a sign on a board. ▪ Evaluate how this would be effective in real life. <p>https://www.stem.org.uk/resources/elibrary/resource/30094/generating-electricity</p>	<ul style="list-style-type: none"> ▪ Learn about Pierre Jaquet-Doz, Leonardo da Vinci and Archytas of Tarentum and their impact on mechanism development. ▪ Learn different Cam movements and explore which one would allow different toys to move. ▪ Explore different movements through prototypes ▪ Know the component which make up a functional cam mechanism. ▪ Design final toy (in groups) ▪ Carefully measure, mark out and assemble the cam mechanism and secure correctly.

Design and Technology Progression of Skills EYFS - Y6

				<ul style="list-style-type: none"> Apply finishing techniques, considering the user.
Skills Covered : Mechanisms Textiles Electrical systems	<ul style="list-style-type: none"> Produce a 3D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforces where appropriate. Know and use technical vocabulary. Select the tools and techniques they need to shape, assemble and join materials. Producing items which represent other objects.	<ul style="list-style-type: none"> Use fabrics to create 3D structures. Use different grades of threads and needs. Experiment with a range of media to overlap and layer creating interesting colours and textures and effects. Produce a 3D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforces where appropriate. Know and use technical vocabulary. 	<ul style="list-style-type: none"> Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products Know and use technical vocabulary. 	<ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary.
Year 6	Autumn: Seeing the 'Her' in Hero	Spring: Our Earth Matters	Summer: Are all English people immigrants?	
	Marbalous structures (marble runs)	Auto animals	Cooking from around the world	
	<ul style="list-style-type: none"> Explore free standing structures and how their specific joins support their strength Learn about: Mike Tonkin and Anna Liu- The singing ringing tree sculpture (won RIBA award 2007). Les Voyageurs sculpture- by French Bruno Catalano. Design and test a range of materials and joins. 	<ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary. 	<ul style="list-style-type: none"> Explore food from around the world and sort them into different food groups. Follow simple recipes to create dishes Complete a risk assessment on the skills involved. 	

Design and Technology Progression of Skills EYFS - Y6

	<ul style="list-style-type: none"> ▪ Show knowledge of using a range of bends in their marble run ▪ Test and improve the design so it is useable. 		
Skills Covered : Mechanisms Cooking Construction and sculptures	<ul style="list-style-type: none"> ▪ Understand how to strengthen, stiffen and reinforce 3D frameworks. ▪ Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> ▪ Understand that mechanical and electrical systems have an input, process and an output. ▪ Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. ▪ Know and use technical vocabulary. 	<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. ▪ Begin to understand that different food and drink contains different substances (nutrients, water and fibre) that are needed for health. ▪ Describe what to do to be hygienic and safe. ▪ Use appropriate tools and equipment, weighing and measuring with scales. ▪ Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.