

Topics

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, form and function.</p> <p>Children share their creations, explaining the process they have used.</p> <p>Make use of props and materials when role playing</p>	<p>Paper Toys</p> <p>Moving Pictures</p> <p>Healthy seaside snacks</p>	<p>Vehicles</p> <p>Fabric Faces</p> <p>Super Sandwiches</p>	<p>Healthy Pizza</p> <p>Moving Monsters</p> <p>Photo Frames</p>	<p>Seasonal Food</p> <p>Pencil Cases</p> <p>British Inventors</p>	<p>Funky Furnishings (sewing cushion covers)</p> <p>Building Bridges</p> <p>Burgers</p>	<p>Fashion and Textiles (sewing drawstring bags)</p> <p>Fairground Rides</p> <p>Great British Meals</p>

EYFS

In EYFS, design and technology learning begins in 'Expressive arts and design' where children begin to explore, use and a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. In Physical Development (Moving and Handling) Children handle equipment and tools effectively

Adapting the curriculum for pupils with SEND in design and technology

Design and technology is an essential means of creative expression that can boost self-esteem and give learners the agency needed to develop and communicate their personal ideas, observations, and creations. It lends learners opportunities to develop both individually and collaboratively, designing naturally encourages learners to problem solve, to be self-critical, to make decisions and to take risks within their learning. The encouragement of self-expression and exploration supports learners to embrace 'the happy accident' and 'learn through their mistakes'.

- Adaptive teaching takes place.
- The tools available are carefully considered for children with physical disabilities.
- Encourage a culture of experimentation, with no one right way to do something
- For sensory needs, consider when alternative materials or tools may need to be offered
- Teachers identify and break down the components of the subject curriculum into manageable chunks for pupils who find learning more difficult, particularly those with cognition and learning needs. These may be smaller 'steps' than those taken by other pupils to avoid overloading the working memory.
- A variety of additional scaffolds may be used in lessons, such vocabulary banks, additional visual stimuli or adult support.

Substantive Knowledge

	Year 1	Year 2	Year 3
Cooking and Nutrition	<p>Healthy seaside snacks</p> <ul style="list-style-type: none"> • Be able to follow instructions to make sandwiches • Know how to make edible boats • Know how to make fruit sculptures • Design a seaside picnic 	<p>Super Sandwiches</p> <ul style="list-style-type: none"> • Learn that food can be divided into different groups and that sandwiches can form part of a healthy diet. • Taste a variety of different breads and sandwiches and examine flavours and textures. • Know how to design and plan a sandwich for a particular purpose. • Create a healthy sandwich. • Know how to evaluate a finished product. 	<p>Healthy Pizzas</p> <ul style="list-style-type: none"> • Be able to name a variety of pizza toppings and use the model of the balanced plate to evaluate how healthy different pizzas are. • Know how to identify which food group a variety of pizza toppings belong to. • Explore different types of bread and evaluate which would work best for a pizza base. • To know why each of the food groups is important for a balanced diet. • Know how to design and make a healthy pizza following given criteria • Know how to evaluate.
Textiles		<p>Fabric Faces</p> <ul style="list-style-type: none"> • To know that fabric is a material and is use • Be able to explore and evaluate how hair is created using different materials. • Know how to join fabrics together and attach different materials • I know how to use a template to create my fabric face shape • Be able to create and follow a design criteria. • Design carefully and use different tools to make my fabric face • Know how to evaluate 	
Mechanisms	<p>Moving Pictures</p> <ul style="list-style-type: none"> • Know the terms mechanism, lever and slider • Be able to create a sliding mechanism. • Learn how to use levers to create a moving mechanism. 	<p>Vehicles</p> <ul style="list-style-type: none"> • Know about and investigate a range of vehicles, identifying and labelling their features • Know what an axle and chassis is and investigate different ways of using axles, 	<p>Moving Monsters</p> <ul style="list-style-type: none"> • Know about and investigate a variety of familiar objects that use air to make them work. • Know some techniques for making simple pneumatic systems.

	<ul style="list-style-type: none"> • Know about, investigate and create wheel mechanisms. • Be able to design a picture with a moving mechanism. • Know how to make a moving picture based on a design. • Know how to evaluate a finished product. 	<p>chassis and wheels to create a moving base.</p> <ul style="list-style-type: none"> • Be able to design a vehicle with wheels, axles and chassis, as well as a body. • Know how to follow a design to make a moving vehicle. • Know how to evaluate a finished product. 	<ul style="list-style-type: none"> • Know how to gather ideas for creating moving monsters • Be able to design a monster including a moving pneumatic system. • Know how to make a monster with a moving pneumatic part. • Know how to evaluate a finished product.
Structures	<ul style="list-style-type: none"> • Know that paper can be folded to make a hinge • Know how to use scissors safely • Know how to join two pieces of paper with glue or tape • Know that paper can be rolled loosely to make a spiral or tightly to be a strong tube shape 		<p>Photo frames</p> <ul style="list-style-type: none"> • Know about and investigate free-standing structures and how they are made stable. • Know how to compare features of photo frames and identify the different components of a photograph frame • Be able to find different ways of strengthening and joining paper and card. • Be able to describe and investigate different techniques for strengthening and joining paper • Be able to design a photograph frame for a particular purpose. • Know how to make a stable photograph frame from a design. • Know how to evaluate a finished product.

	Year 4	Year 5	Year 6
Cooking and Nutrition	<p>Seasonal Food</p> <ul style="list-style-type: none"> • Be able to explain what the term 'seasonal food' means and know that different parts of the world have different seasonal food. • Know the benefits and problems of unseasonal food being available in shops all year round • Know how to practise cooking skills (e.g. slicing, dicing, beating, whisking, folding, sieving, rolling and grating) • Know how to follow a recipe using seasonal ingredients • Be able to use what I have learnt about seasonal food to design healthy meals 	<p>Burgers</p> <ul style="list-style-type: none"> • Know that most foods we buy have nutrition labels to help us make informed choices about what we eat. • Learn that calories come from fats, proteins and carbohydrates. • Be able to evaluate how healthy a burger is based on its nutritional label. • Know how to compare different burgers and assess which is healthiest. • Be able to explain some of the different ways in which burger patties are cooked • Learn how to follow a recipe to make a beef, turkey or vegetable burger patty along with sauces • Learn how to design a burger menu to incorporate different patties, sides and sauces. • Be able to offer suggestions for some alternatives for bread design a burger for a particular purpose. • Learn how to make and evaluate a burger, following a recipe and design. 	<p>British Dishes</p> <ul style="list-style-type: none"> • Know the origins of some traditional English savoury dishes • Know how to combine ingredients and follow a recipe • Understand their RDA for sugar and how to identify the sugar content on food packaging and in desserts Understand the seasonality of different British fruits • Know some traditional Scottish dishes and their main ingredient including oats • Know some traditional Welsh dishes and their main ingredients • Be able to give opinions on ingredients and adapt recipes • Know how to talk about the word "cuisine" and understand that the cuisine of different countries can influence each other • Be able to research, record and share knowledge • Understand that products have "shelf-lives" • Be able to plan and cost a meal along with giving general kitchen health and safety advice.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Textiles</p>	<p>Pencil cases</p> <ul style="list-style-type: none"> • Be able to investigate a range of pencil cases. • Learn how to practice and compare sewing stitches • Be able to investigate ways of opening and closing pencil cases • Learn how to sew embellishments to a piece of fabric. • Be able to design a pencil case • Learn how to make and evaluate a pencil case based on a design. 	<p>Cushion Covers</p> <ul style="list-style-type: none"> • Learn about, investigate and analyse different types of cushions • Know about different ways to join fabric using sewing skills • Know the different ways to decorate fabric using sewing skills • Be able to explore different ways to create fastenings • Know how to how to design a cushion cover • Know how to make and evaluate 	<p>Drawstring bags</p> <ul style="list-style-type: none"> • Know how to investigate and analyse items made using textiles: the materials used and how they are made • Be able to explore some ways in which textiles are joined and decorated. • Be able to design an item made using textiles and draw pattern pieces. • Know how to join fabric pieces by hand sewing • Learn how to sew hems on an item made using textiles; to add design details. • Know how to evaluate a finished product.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Mechanisms</p>			<p>Fairground Rides</p> <ul style="list-style-type: none"> • Be able to research a range of fairground rides and see how they move. • Be able to investigate ways of using electrical motors to create rotating parts. • Be able to create prototype models to investigate stable frameworks. • Learn how to design a fairground ride with a rotating part. • Know how to make a fair ground ride following a design. • Know how to evaluate a finished product.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Structures</p>		<p>Building Bridges</p> <ul style="list-style-type: none"> • Know what beams and pillars are and how they are used in bridge construction • Learn how to test the strength of different beam shapes using paper and card. • Be able to explain what a truss is and how trusses make bridges stronger. • Know how to identify the three types of trusses commonly used in bridge design. • Be able to use paper straws to build truss bridges 	

		<ul style="list-style-type: none"> • Know how arches work to make bridges stronger. • Be able to test and make an arch frame. • Be able to learn about how suspension bridges use tension forces to work. • Design, make and evaluate a prototype suspension bridge using a scale of 1:100 according to specific design criteria. 	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Inventions and Achievements</p>	<p>British Inventors</p> <ul style="list-style-type: none"> • Know about the invention of the mackintosh. • Know how to make fabric waterproof. • Be able to explain the invention of the world wide web. • Be able to describe how the invention of the internet has changed the world. 		

Disciplinary Knowledge

	EYFS	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Design Process	<ul style="list-style-type: none"> • Make to create an outcome. • Explain what they have made. 	<ul style="list-style-type: none"> • Work from a basic brief to generate ideas and design a simple product fit for purpose and audience. • Explore suitability of common materials before making a choice. • Show awareness of some products similar to their design. • Develop ideas, communicating and recording them in a suitable way (e.g. design book, design page, IT, mind map) • Make a final product. • Evaluate their final product – what went well? Did they follow the brief? 	<ul style="list-style-type: none"> • Work from a brief to design an appealing, functional product fit for purpose and audience. • Explore some possible materials, conducting a simple test to ensure suitability before making a choice. • Show awareness of products similar to their own. • Develop an idea, communicating and recording it in a suitable way (e.g. annotated design page, diagrams, IT) • Perform basic tests, make simple • Create a final idea and translate this into a final product which fits the brief. • Evaluate their final product – what went well? Did they follow the brief? How could they improve their design? 	<ul style="list-style-type: none"> • Work from a brief with a simple constraint (e.g. audience / purpose) to design an appealing, functional product. • Research a range of materials, conducting tests as appropriate before selecting the best choice. • Research products similar and different to their own to inform their own design. • Develop a design idea, communicating and recording it via a plan and a labelled diagram. • Test ideas using prototypes/creating pattern pieces and where relevant computer aided design. • Develop and make a final product, based on testing, which meets the brief criteria. • Evaluate their final product, including discussion amongst peers to assess their product against the brief and consider improvements.

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<p>Resistant materials</p>	<ul style="list-style-type: none"> • Begin to cut and tear materials. • Stick and glue materials together. • Use junk objects to create their own designs. • Begin to consider how they join materials together. 	<ul style="list-style-type: none"> • Follow basic procedures for safety. • Cut materials safely using scissors. • Tear, fold and curl materials. • Join using gluing and taping. • Begin to use a simple hinge. • Select materials and tools based on their properties. • Create products based on a design. • Explore and use simple mechanisms [e.g. levers, sliders, wheels and axles], in their products. • Build structures, exploring how they can be made stronger, stiffer and more stable. 	<ul style="list-style-type: none"> • Follow procedures for safety. • Cut, tear and shape materials with increasing accuracy. • Use a wider range of joining methods (e.g. fasteners, tabs, flange) • Choose appropriate materials and tools for a product based on their functional properties and aesthetics. • Strengthen, stiffen and reinforce a product using suitable materials. • Make mechanical / moving elements (e.g. pulleys, levers and linkages) • Choose appropriate materials by testing their properties using a prototype. • Incorporate a simple electrical system into their product 	<ul style="list-style-type: none"> • Follow procedures for safety with a wider range of tools and processes. • Cut and shape materials based on their design with increasing accuracy. • Choose appropriate tools and methods to cut and form a wide range of materials. • Choose appropriate materials by testing their properties using prototypes, justifying their choices. • Use a wider range of joining methods • Incorporate a more complex electrical system into their designs (e.g. more than one component / adding a switch).
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Textiles	<p>Possible activities:</p> <ul style="list-style-type: none"> • Stick and decorate textiles with support. • Thread beads onto a string. • Begin to cut fabric using scissors. 	<ul style="list-style-type: none"> • Cut textiles using scissors and a template. • Decorate textiles using crayons, paint or sticking. • Join textiles using glue. • Use a running stitch to join textiles using pre-prepared holes. • Create simple weaving using paper or large strips of fabric. 	<ul style="list-style-type: none"> • Cut textiles with scissors safely. • Thread a needle and tie a knot. (e.g. wool/embroidery needle) • Use a running stitch to join textiles. • Decorate textiles using stamping, printing and simple embellishment. 	<ul style="list-style-type: none"> • Use seam allowance and different stitches to join textiles to create a simple product (e.g. A cushion or soft toy). • Use a pattern/template to mark and cut fabric into a specific shape • Use applique • Thread a needle and tie a knot, including finishing a thread and starting a new one within a project. • Choose appropriate materials for a textile product based on its use. • Sew a button or bead onto a project.
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Food and Nutrition * Statements link to science</p>	<ul style="list-style-type: none"> Understand that fruit and vegetables grow, and which ones we can grow at home 	<ul style="list-style-type: none"> Cut soft foods safely and hygienically using an appropriate tool. Measure using measuring cups and spoons. Assemble ingredients to make a simple recipe. Discuss what a healthy and varied diet should look like, naming and sorting using the five main groups. * Know where a range of fruits and vegetables come from. * 	<ul style="list-style-type: none"> Cut a range of foods safely and hygienically with an appropriate tool. Measure ingredients using scales or jugs. Follow recipes, starting to use techniques such as peeling, chopping, slicing, mixing, spreading, baking or kneading. Cook using a pan or oven safely (with supervision and support). Know where a wider range of foods come from. Discuss the importance of a range of varied and nutritious foods. * Discuss the importance of a balanced diet to provide energy for a healthy active lifestyle. * 	<ul style="list-style-type: none"> Discuss why we need to store and handle food hygienically (micro-organisms).* Measure ingredients with a degree of accuracy using an appropriate measuring device. Scale recipes up or down accordingly. Design their own simple savoury recipes and test them. Use a range of baking and cooking techniques with increasing confidence (e.g. boiling, frying, baking, grilling, steaming, roasting, microwaving) Begin to explain why a recipe or meal is healthy or not, giving reasons based on their understanding.*
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Analyse and Evaluate</p>	<ul style="list-style-type: none"> Enjoy looking at different products and designs. Can say whether they like a product/design or not. Identify materials used to make a product (e.g. plastic, metal, wood) 	<ul style="list-style-type: none"> Enjoy looking at different products and designs. Can say whether they like a product/design or not. Make a link between their work and a product. Start to ask their own questions about a product or design. 	<ul style="list-style-type: none"> Can express an opinion about a product, giving simple reasons why. Make simple comparisons between designers and products. Begin to make links between key events and individuals in design and technology that have helped shape the world. Discuss: what products are; who they are for; how they are made and what materials are used. 	<ul style="list-style-type: none"> Express an opinion about a product, justifying reasons. Make links between their work and the work of others, noting specific influences and techniques. Explore: how well products have been designed and made; why materials have been chosen; what methods of construction have been used; how well products achieve their purpose.