

Design

I am a designer because I am inspired by products and structures around me. I use my creativity to develop my own thoughts and ideas to design.

Design Technology Curriculum

BIG IDEAS



Problem solving

I am a designer because I use my thoughts and ideas to solve problems. I use my “why”, “what if” and “will” skills to develop my problem solving.

Skills and Expertise

I am a designer because I develop my skills using a range of techniques, materials and tools competently.



Design Technology Curriculum

BIG IDEAS: Teaching Approaches

BIG IDEA	EYFS & KS1	KS2
<p>DESIGN</p>	<ul style="list-style-type: none"> ◇ Enjoy looking at designs and products made by craftspeople, architects, designers and chefs, finding elements which inspire. ◇ Be given time and space to engage with the physical world to stimulate a design ideas (visiting, seeing, holding, hearing). 	<ul style="list-style-type: none"> ◇ Enjoy looking at designs and products made by craftspeople, architects, designers and chefs. Discuss intention and reflect upon their responses. ◇ Examine the importance of design and what would be different now had major architects and designers not followed their design ideas? (link to history/science/geography). ◇ Be given time and space to engage with the physical world to stimulate a creative response (visiting, seeing, holding, hearing), including found and manmade objects.
<p>PROBLEM SOLVING</p>	<ul style="list-style-type: none"> ◇ Encourage children to problem solve using their "will", "why", "what if" skills whilst engaging with them in their play. ◇ Talk about their designs as they make them, thinking about if their design is working out...how can it be improved? ◇ Set challenges to develop adult directed problem solving. 	<ul style="list-style-type: none"> ◇ Build on the problem solving skills developed in EYFS/KS1. Add more challenge. ◇ Develop questions to ask when designing and making products eg: What would be the best joining mechanisms to use? How can it be strengthened? Children develop problem solving further, when working with peers. Teamwork problem solving challenges should be developed.
<p>SKILLS AND EXPERTISE</p>	<ul style="list-style-type: none"> ◇ Generate ideas through playful, open-ended, hands-on exploration of materials and tools. ◇ Children should be taught to use a variety of tools and techniques following the tools skills progression plan. ◇ A range of skills and techniques are developed during our life skills curriculum. Each year children should sew, cook and take part in tool use through Forest School and woodwork sessions. 	<ul style="list-style-type: none"> ◇ Continue to generate ideas through space for playful making. ◇ Continue on the techniques and tools skills progression plan, ensuring they are working towards competent, independent tool use by the end of Y6. ◇ A range of skills and techniques are developed during our life skills curriculum. Each year children should sew and cook and take part in tool use through Forest School and woodwork sessions.



Design Technology Curriculum Progression

Skills	Year 1	Year 2	Year 3
Evaluating Products	<ul style="list-style-type: none"> ◇ I know what a product is. ◇ I can say what a product is for. ◇ I can describe a product (who is it for, what is made from, how is it made, how it works). 	<ul style="list-style-type: none"> ◇ I know the features of familiar products ◇ I can give reasons for some features (colour, choice, material used and joining technique). 	<ul style="list-style-type: none"> ◇ I can start to research and evaluate existing products ◇ I understand that products are designed for a purpose (e.g. a problem, an audience, an event)
Designing	<ul style="list-style-type: none"> ◇ I can think of ideas and with help can put them into practice. ◇ I know what a design is. ◇ I can use pictures and words to describe what I want to do. 	<ul style="list-style-type: none"> ◇ I can think of ideas and with help can put them into practice. ◇ know what a design is and its purpose. ◇ I can use pictures and words to describe what I want to do (materials, techniques, features, mechanics and tools). 	<ul style="list-style-type: none"> ◇ I can think of ideas and plan what to do next, based on what I know about materials and components. ◇ I can select tools, techniques and materials. ◇ I can explain my choices giving reasons.
Constructions	<ul style="list-style-type: none"> ◇ I know what materials I can use for my structure ◇ I know what a join is. ◇ I can measure and mark out materials ◇ I can cut using scissors. ◇ I can follow instructions to make my product. 	<ul style="list-style-type: none"> ◇ I know what materials and tools I can use for my structure. ◇ I know what a join is and can use one. ◇ I can measure and mark out materials with care and increasing accuracy. ◇ I can cut materials safely (scissors, junior hacksaw). ◇ I am careful to make my work look as neat as possible. ◇ I have found out how to make materials for my structure stronger (folding, rolling ...) 	<ul style="list-style-type: none"> I can select and use appropriate materials. ◇ I can use an appropriate join. ◇ I measure and mark out materials carefully and accurately (cm). ◇ I can use scoring and folding to shape materials accurately. ◇ I can make cuts accurately (scissors and saws). ◇ I can make holes accurately (drill, punch). ◇ I can use art skills to enhance the visual appeal of my product.
Textiles	<ul style="list-style-type: none"> ◇ I can describe textiles by the way they feel. ◇ I can make a simple product from textiles. ◇ I can join fabrics using glue and running stitch. ◇ I can weave. 	<ul style="list-style-type: none"> ◇ know that textiles have different properties. □ ◇ I can select the appropriate textile so that it does the job I want it to. ◇ I can alter a textile to make it stronger. ◇ can cut fabric using a template. ◇ I can join fabrics using running stitch. 	<ul style="list-style-type: none"> ◇ I can select the appropriate textile(s) for my product based on the properties of the material. ◇ I can measure, mark out and cut fabric. ◇ I can use sharp scissors accurately to cut textiles. ◇ I can choose the best methods of joining fabrics in order to create a product which is fit for purpose.

Skills	Year 1	Year 2	Year 3
Cooking and Nutrition	<ul style="list-style-type: none"> ◇ I can use a knife safely. ◇ I can mix and combine ingredients. ◇ I am aware of hygiene for cooking. ◇ I can explain how some things are dangerous to eat raw. ◇ I can explain what a recipe is. ◇ I can explain how heat changes food. ◇ I can make a simple snack. 	<ul style="list-style-type: none"> ◇ I can use a variety of utensils safely. ◇ I can follow a simple recipe. ◇ I can measure and combine ingredients in various ways. ◇ I can apply hygiene rules to cooking. ◇ I can use explain how some foods are made and some are natural. ◇ I can explain what the food groups are. ◇ I know where some foods come from. ◇ I can describe different cooking methods. ◇ I can prepare a healthy snack/breakfast. 	<ul style="list-style-type: none"> ◇ I can select ingredients based on a recipe. ◇ I can work in a safe, hygienic way. ◇ I can measure out my ingredients. ◇ I understand what is healthy and unhealthy. ◇ I can combine two cooking processes to make a product. ◇ I know where food comes from. ◇ I can prepare a healthy lunch.
Evaluating	<ul style="list-style-type: none"> ◇ I can talk about my own work (features, design, opinion) ◇ I describe how my product works 	<ul style="list-style-type: none"> ◇ I talk about my own and others' work (features, design, opinion). ◇ I can explain why I chose certain materials, techniques and tools. ◇ I describe how my product works. 	<ul style="list-style-type: none"> ◇ I talk about my own and others' work (features, design, opinion). ◇ I can explain why I chose certain materials, techniques and tools. ◇ I can say what I would do to improve my product.
Knowledge of designers	<ul style="list-style-type: none"> ◇ I know what a designer does. ◇ I give my opinion on a product. 	<ul style="list-style-type: none"> ◇ I know the names and the products of some British designers. ◇ I can say what I like and dislike about the product and the designer. 	<ul style="list-style-type: none"> ◇ I know some designers from history. ◇ I can talk about some of the tools, techniques used by the designer.

Skills	Year 4	Year 5	Year 6
Evaluating Products	<ul style="list-style-type: none"> ◇ I can research and evaluate existing products to inform me in my own planning. ◇ I understand that products are designed for a purpose (e.g. a problem, an audience, an event). 	<ul style="list-style-type: none"> ◇ I can research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques). ◇ I can use the ideas from current designers to help me with my own. 	<ul style="list-style-type: none"> ◇ I can research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques). ◇ I can adapt the ideas from current designers to help me with my own.
Designing	<ul style="list-style-type: none"> ◇ I can think of ideas and plan what to do next, based on what I know about materials and components. ◇ I can select the appropriate tools, techniques and materials explaining my choices. ◇ I can communicate my ideas using labelled sketches giving reasons for my choices. ◇ I can produce step by step plans. 	<ul style="list-style-type: none"> ◇ I can use my knowledge of design, designers and further research to help influence my own design. ◇ I can create models to show aspects of my design. ◇ I can produce step by step plans. ◇ I can come up with solutions to problems as they happen. 	<ul style="list-style-type: none"> ◇ I can use my knowledge of design designers and further research to help influence my own design. ◇ I can create models or prototypes to show aspects of my design. ◇ I can produce step by step plans. ◇ I can use computer aided design. ◇ I can come up with solutions to problems as they happen.
Constructions	<ul style="list-style-type: none"> ◇ I can select and use appropriate materials, joins, folds and techniques. ◇ I can make cuts and holes accurately and precisely. ◇ I can join materials to make products using both permanent and temporary fastenings. ◇ My methods of working are increasingly precise aiming for a high quality finish. ◇ I can use art skills to enhance the visual appeal of my product bearing in mind the purpose and audience. 	<ul style="list-style-type: none"> ◇ can select from a variety of materials best suited to my design. ◇ I can measure using cm, mm. ◇ I can shape products accurately and precisely. ◇ I can make cuts accurately and reject pieces that are not accurate. ◇ My joins are strong and stable, giving extra strength to my products. Some joins are flexible. ◇ My methods of working are precise so that products have a high quality finish. 	<ul style="list-style-type: none"> ◇ I can test my construction methods (materials, cuts, folds, joins) using a prototype. ◇ I can measure accurately using cm, mm. ◇ I can shape products accurately and precisely. ◇ I can make cuts accurately and reject pieces that are not accurate and improve my technique. ◇ My methods of working are precise so that products have a high quality finish.
Textiles	<ul style="list-style-type: none"> ◇ I can consider the advantages and disadvantages of material for a product. ◇ I can create and use a template or pattern to create an accurate product. 	<ul style="list-style-type: none"> ◇ I can experiment with a range of materials until I find the most appropriate material for the job. ◇ I can mark out using my own patterns and templates. ◇ I can join textiles to make a durable and 	<ul style="list-style-type: none"> ◇ I can experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job. ◇ My products have an awareness of commercial appeal. ◇ I can mark out using my own patterns and

Skills	Year 4	Year 5	Year 6
Textiles	<ul style="list-style-type: none"> ◇ I can consider the advantages and disadvantages of material for a product. ◇ I can create and use a template or pattern to create an accurate product. ◇ I can use stitching to help create a product that is sturdy and fit for purpose. 	<ul style="list-style-type: none"> ◇ I can experiment with a range of materials until I find the most appropriate material for the job. ◇ I can mark out using my own patterns and templates. ◇ I can join textiles to make a durable and desirable product using a variety of stitches. ◇ I can combine art skills to add colour and texture to my work. 	<ul style="list-style-type: none"> ◇ I can experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job. ◇ My products have an awareness of commercial appeal. ◇ I can mark out using my own patterns and templates adapting them if needed. ◇ I can combine stitching with art skills to add colour and texture to my work. .
Designing	<ul style="list-style-type: none"> ◇ I can think of ideas and plan what to do next, based on what I know about materials and components. ◇ I can select the appropriate tools, techniques and materials explaining my choices. ◇ I can communicate my ideas using labelled sketches giving reasons for my choices. ◇ I can produce step by step plans. 	<ul style="list-style-type: none"> ◇ I can use my knowledge of design, designers and further research to help influence my own design. ◇ I can create models to show aspects of my design. ◇ I can produce step by step plans. ◇ I can come up with solutions to problems as they happen. 	<ul style="list-style-type: none"> ◇ I can use my knowledge of design designers and further research to help influence my own design. ◇ I can create models or prototypes to show aspects of my design. ◇ I can produce step by step plans. ◇ I can use computer aided design. ◇ I can come up with solutions to problems as they happen.
Mechanics and electrics	<ul style="list-style-type: none"> ◇ I can investigate wheels, axels, turning mechanisms, hinges and simple levers. ◇ I can explain how the mechanism in my product works. ◇ I can choose and make a mechanism to create movement. ◇ I can combine a number of components well in my product. 	<ul style="list-style-type: none"> ◇ I can explain the application of mechanisms to create movement. ◇ I can use simple circuits to either illuminate or create motion. ◇ I can make a product that uses both electrical and mechanical components. ◇ My product has a good finish so that a user will find it both useful and attractive. 	<ul style="list-style-type: none"> ◆ I have chosen components that can be controlled by switches or by ICT equipment. ◆ My product is improved after testing. ◆ I can use my science skills (resistance, batteries in series or parallel, variable resistance to dim lights or control speed) to alter the way my electrical products behave. ◆ I can use precise electrical connections. ◆ I can explain mechanical movement using hydraulics and pneumatics. ◆ I can use other DT skills to create housings for my mechanical components. My product is well finished in a way that would appeal.

Skills	Year 4	Year 5	Year 6
Cooking and Nutrition	<ul style="list-style-type: none"> ◇ I can select ingredients for my product with reasons. ◇ I can work in a safe, hygienic way. ◇ I can use mathematical skills to measure out my ingredients. ◇ I can follow steps in a recipe using different methods (combining, melting, boiling and baking). ◇ I can explain why we need a healthy diet. ◇ I can use my knowledge of the food groups to plan and prepare a healthy lunch. 	<ul style="list-style-type: none"> ◇ I can explain why I need certain food types and select ingredients based on this. ◇ I can work safely and hygienically. ◇ I know about local produce and seasonality. ◇ I understand food choices (veganism, vegetarianism) and food intolerances. ◇ I can follow several processes in a recipe. ◇ I can use my knowledge of the food groups to plan and prepare a healthy dinner. 	<ul style="list-style-type: none"> ◇ I know where different crops can be found around the world. ◇ I can understand carbon footprint. ◇ I know different cultures have different diets and how these have influenced our diet. ◇ I can work safely and hygienically. ◇ I can follow several processes in a recipe. ◇ I can adapt my recipe based on my audience and taste. ◇ I can use my knowledge of the food groups to plan and prepare a balanced dinner.
Evaluating	<ul style="list-style-type: none"> ◇ I can identify what is working well and what can be improved (this is during the make as well as at the end). 	<ul style="list-style-type: none"> ◇ I can reflect on my designs and develop them bearing in mind the way they will be used (during the process). 	<ul style="list-style-type: none"> ◇ I can reflect on my designs and adapt them based on testing and a prototype.
Knowledge of Designers	<ul style="list-style-type: none"> ◆ I know some international designers. ◆ I can explain why a product is appealing. 	<ul style="list-style-type: none"> ◆ I can compare and contrast the work of different designers. ◆ I can give reasons for the decisions made by the designer. 	<ul style="list-style-type: none"> ◆ I know how key events and individuals have influenced the world (in terms of products). ◆ I start to think of new products and innovate my own ideas.



Design Technology Curriculum

Whole School Vocabulary Progression

Year groups have key Design Technology vocabulary. This vocabulary should be taught within the year group but reference to previous year group's vocabulary is essential in order for children to secure their understanding of the technical design vocabulary and skills.

KS1	Year 3	Year 4	Year 5	Year 6
Cut		◇ Axel	◇ Components	◇ Affordable
Design	◇ Column	◇ Accuracy	◇ Features	◇ Appropriate
Join	◇ Designer	◇ Bake	◇ Ingredients	◇ Commercial
Made	◇ Evaluate	◇ Boil	◇ Plaiting	◇ Connections
Make	◇ Folding	◇ Folding	◇ Research	◇ Desirable
Measure	◇ Healthy	◇ Hacksaw	◇ Strength	◇ Durable
Tidy	◇ Mixing	◇ Measure	◇ Structural Technique	◇ Embroidery
Tools (saw, drill, knife, screwdriver, hammer)	◇ Product	◇ Mechanics		◇ Experiment
Hinge	◇ Purpose	◇ Properties		◇ Influence
Joining	◇ Structure	◇ Scoring		
Lever	◇ Utensil			
Rolling	◇ Ingredient			
Scissors	◇ Template			
Stitch				
Strong				
Turning				
Wheels				
Cogs				
Hygienic				
Weaving				
Sewing				