





Design Technology- Progression of Knowledge and Skills


KEY CONCEPTS	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Design</p> 	<ul style="list-style-type: none"> Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. 	<ul style="list-style-type: none"> Use pictures & words to convey what they want to design/make. Propose more than one idea for their product. Use kits/reclaimed materials to develop more than one idea. Model ideas with kits, reclaimed materials. Select appropriate technique explaining First... Next... Last.... 	<ul style="list-style-type: none"> Explore ideas by rearranging materials. Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Add notes to drawings to help explanations. Describe their models and drawings of ideas and intentions. 	<ul style="list-style-type: none"> Develop more than one design or adaptation of an initial design. Plan a sequence of actions to make a product. Use prototypes to develop and share ideas. Consider aesthetic qualities of materials chosen. 	<ul style="list-style-type: none"> Record the plan by drawing using annotated sketches. Begin to use cross-sectional and exploded diagrams. Think ahead about the order of their work and decide upon tools and materials. Use CAD where appropriate. Propose realistic suggestions as to how they can achieve their design ideas. 	<ul style="list-style-type: none"> List tools needed before starting the activity. Plan the sequence of work e.g. using a storyboard. Record ideas using annotated diagrams. Use exploded diagrams and cross-sectional diagrams to communicate ideas. Decide which design idea to develop. 	<ul style="list-style-type: none"> Use models, kits and drawings to help formulate design ideas. Combine modelling and drawing to refine ideas. Devise step by step plans which can be read/ followed by someone else. Sketch and model alternative ideas.
<p>Make</p> 	<ul style="list-style-type: none"> Join different materials and explore different textures. 	<ul style="list-style-type: none"> Discuss their work as it progresses. Select and name the tools needed to work the materials. Explain what they are making. 	<ul style="list-style-type: none"> Select materials from a limited range that will meet the design criteria. Explain which materials they are using and why. Name the tools they are using. Describe what they need to do next. 	<ul style="list-style-type: none"> Prepare pattern pieces as templates for their design. Cut slots. Cut internal shapes. Select from a range of tools for cutting shaping joining and finishing. Plan the stages of the making process. 	<ul style="list-style-type: none"> Use tools with accuracy. Select from techniques for different parts of the process. Select from materials according to their functional properties. Use appropriate finishing techniques. 	<ul style="list-style-type: none"> Make prototypes. Develop one idea in depth. Use researched information to inform decisions. Use a computer to model ideas. Select from and use a wide range of tools. Use appropriate finishing techniques for the project. 	<ul style="list-style-type: none"> Produce detailed lists of ingredients / components / materials and tools Cut accurately and safely to a marked line. Select from and use a wide range of materials. Refine their product – review and rework/improve.

Design Technology- Progression of Knowledge and Skills

<p>Evaluate</p>	<ul style="list-style-type: none"> Ask questions to find out more and to check they understand what has been said to them. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. 	<ul style="list-style-type: none"> Say what they like and do not like about items they have made and attempt to say why. Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user. 	<ul style="list-style-type: none"> Explore existing products and investigate how they have been made. Decide how existing products do/do not achieve their purpose. Talk about their design as they develop and identify good and bad points. Note changes made during the making process as annotations to plans/drawings. 	<ul style="list-style-type: none"> Research needs of user. Identify the strengths and weaknesses of their design ideas in relation to purpose/user. Decide which design idea to develop. Discuss how well the finished product meets the design criteria of the user. 	<ul style="list-style-type: none"> Investigate similar products to the one to be made to give starting points for a design. Draw/sketch products to help analyse and understand how products are made. Consider and explain how the finished product could be improved. Investigate key events and individuals in Design and Technology. 	<ul style="list-style-type: none"> Research and evaluate existing products (including book and web-based research). Consider and explain how the finished product could be improved related to design criteria. Understand how key people have influenced design. 	<ul style="list-style-type: none"> Consider user and purpose. Identify the strengths and weaknesses of their design ideas. Discuss how well the finished product meets the design criteria of the user. Test on the user! Give a report using correct technical vocabulary.
<p>Food</p>	<p>Soup</p> <ul style="list-style-type: none"> Know and talk about the different factors that support their overall health and wellbeing: healthy eating 	<p>Fruit and Vegetables</p> <ul style="list-style-type: none"> Develop a food vocabulary using taste, smell, texture and feel. Group familiar food products. e.g. fruit and vegetables. Cut, peel, grate, chop a range of ingredients. Work safely and hygienically. 	<p>A Balanced Diet</p> <ul style="list-style-type: none"> Explain where food comes from. Understand the need for a variety of foods in a diet. Measure and weigh food items, non-statutory measures e.g. spoons, cups. 	<p>Eating Seasonally</p> <ul style="list-style-type: none"> Make healthy eating choices – use the Eatwell plate. Explore seasonality of vegetables and fruit. Find out which fruit and vegetables are grown in countries/continents studied in Geography. Develop understanding of how meat/fish are reared/caught. 	<p>Adapting a Recipe</p> <ul style="list-style-type: none"> Develop sensory vocabulary/knowledge using, smell, taste, texture and feel. Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury). Follow instructions/recipes. Join and combine a range of ingredients. 	<p>What Could be Healthier?</p> <ul style="list-style-type: none"> Show awareness of a healthy diet (using the eatwell plate). Know where and how ingredients are grown and processed. Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc. 	<p>Come Dine with Me</p> <ul style="list-style-type: none"> Prepare food products taking into account the properties of ingredients and sensory characteristics. Weigh and measure using scales. Select and prepare foods for a particular purpose. Work safely and hygienically. Use a range of cooking techniques.

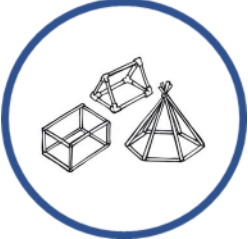



Design Technology- Progression of Knowledge and Skills

<p>Textiles (Covered mostly in Art)</p> 	<ul style="list-style-type: none"> Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. 	<p>Covered in Y2</p>	<p>Puppets</p> <ul style="list-style-type: none"> Cut out shapes which have been created by drawing round a template onto the fabric. Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape. Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. Colour fabrics using a range of techniques e.g. fabric paints, printing, painting. 	<p>Egyptian Collars</p> <ul style="list-style-type: none"> Develop vocabulary for tools materials and their properties. Understand seam allowance. Join fabrics using running stitch, over sewing, blanket stitch. Prototype a product using J cloths. Use prototype to make pattern. Explore strengthening and stiffening of fabrics. Explore fastenings (inventors?) and recreate some. Sew on buttons and make loops. Use appropriate decoration techniques. 	<p>Covered in Y3</p>	<p>Covered in Y6</p>	<p>Glove Puppets</p> <ul style="list-style-type: none"> Use the correct vocabulary appropriate to the project. Create 3D products using patterns pieces and seam allowance. Understand pattern layout. Decorate textiles appropriately (often before joining components). Pin and tack fabric pieces together. Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision). Combine fabrics to create more useful properties. Make quality products.
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Design Technology- Progression of Knowledge and Skills

<p style="text-align: center;">Structures</p> 	<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. ▪ Create closed shapes with continuous lines. 	<p><u>Constructing a Lighthouse</u></p> <ul style="list-style-type: none"> ▪ Explore how to make structures stronger. ▪ Investigate different techniques for stiffening a variety of materials. ▪ Test different methods of enabling structures to remain stable. ▪ Join appropriately for different materials and situations e.g. glue, tape. ▪ Mark out materials to be cut using a template. ▪ Use a glue gun with close supervision. 	<p style="text-align: center;">Covered in Y1</p>	<p style="text-align: center;">Covered in Y4</p>	<p><u>Pavillions</u></p> <ul style="list-style-type: none"> ▪ Develop vocabulary related to the project. ▪ Create shell or frame structures. ▪ Strengthen frames with diagonal struts. ▪ Make structures more stable by giving them a wide base. ▪ Measure and mark square section, strip and dowel accurately to 1cm. 	<p><u>Bridges</u></p> <ul style="list-style-type: none"> ▪ Use the correct terminology for tools materials and processes. ▪ Use bradawl to mark hole positions. ▪ Use hand drill to drill tight and loose fit holes. ▪ Cut strip wood, dowel, square section wood accurately to 1mm. ▪ Join materials using appropriate methods. ▪ Build frameworks to support mechanisms. ▪ Stiffen and reinforce complex structures. 	<p style="text-align: center;">Covered in Y5</p>
<p style="text-align: center;">Mechanisms / Electrical Systems and Computing</p> 	<ul style="list-style-type: none"> ▪ Explore wheels and axles with cars in a small world. ▪ Understand that pulling a lever produces a physical response. 	<p><u>Moving Story Books - Wheels and Axles</u></p> <ul style="list-style-type: none"> ▪ Try out different axle fixings and their strengths and weaknesses. ▪ Make vehicles with construction kits which contain free running wheels. ▪ Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. ▪ Roll paper to create tubes. ▪ Cut dowel using hacksaw and bench hook. ▪ Attach wheels to a chassis using an axle. 	<p><u>Making a Moving Monster</u></p> <ul style="list-style-type: none"> ▪ Join appropriately for different materials and situations e.g. glue, tape. ▪ Mark out materials to be cut using a template. ▪ Fold, tear and cut paper and card. ▪ Cut along lines, straight and curved. ▪ Use hole punch. ▪ Insert paper fasteners for card. ▪ Experiment with levers and sliders to find different ways of making things move in a 2D plane. 	<p><u>Make a Slingshot Car</u></p> <ul style="list-style-type: none"> ▪ Develop vocabulary related to the project. ▪ Use mechanical systems such as gears, pulleys, levers and linkages. ▪ Use lolly sticks/card to make levers and linkages. ▪ Use linkages to make movement larger or more varied. 	<p><u>Torches</u></p> <ul style="list-style-type: none"> ▪ Incorporate a circuit into a model. ▪ Use electrical systems such as switches bulbs and buzzers. ▪ Use ICT to control products. 	<p><u>Making a Pop-Up Book</u></p> <ul style="list-style-type: none"> ▪ Develop a technical vocabulary appropriate to the project. ▪ Use mechanical systems such as cams, pulleys and gears. 	<p><u>Steady Hand Game</u></p> <ul style="list-style-type: none"> ▪ Use electrical systems such as motors. ▪ Program, monitor and control using ICT.