

## Skills and progression in Year 1 and 2

## Design and Technology

Design		Make	Evaluate
<ul style="list-style-type: none"> <li>Use pictures and words to convey what they want to design/make.</li> <li>Propose more than one idea for their product.</li> <li>Use kits/reclaimed materials to develop more than one idea.</li> <li>Model ideas with kits, reclaimed materials.</li> <li>Select appropriate technique explaining: First... Next... Last....</li> <li>Explore ideas by rearranging materials.</li> <li>Select pictures to help develop ideas.</li> <li>Use drawings to record ideas as they are developed.</li> <li>Add notes to drawings to help explanations.</li> <li>Describe their models and drawings of ideas and intentions.</li> </ul>		<ul style="list-style-type: none"> <li>Discuss their work as it progresses.</li> <li>Select materials from a limited range that will meet the design criteria.</li> <li>Select and name the tools needed to work the materials.</li> <li>Explain what they are making.</li> <li>Explain which materials they are using and why.</li> <li>Name the tools they are using.</li> <li>Describe what they need to do next.</li> </ul>	<ul style="list-style-type: none"> <li>Explore existing products and investigate how they have been made.</li> <li>Decide how existing products do/do not achieve their purpose.</li> <li>Talk about their design as they develop and identify good and bad points.</li> <li>Note changes made during the making process as annotation to plans/drawings.</li> <li>Say what they like and do not like about items they have made and attempt to say why.</li> <li>Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</li> </ul>
Food	Textiles	Structures	Mechanisms
<ul style="list-style-type: none"> <li>Develop a food vocabulary using taste, smell, texture and feel.</li> <li>Group familiar food products e.g. fruit and vegetables.</li> <li>Explain where food comes from.</li> <li>Cut, peel, grate, chop a range of ingredients</li> <li>Work safely and hygienically.</li> <li>Understand the need for a variety of foods in a diet.</li> <li>Measure and weigh food items, non-statutory measures e.g. spoons, cups.</li> </ul>	<ul style="list-style-type: none"> <li>Cut out shapes which have been created by drawing round a template onto the fabric.</li> <li>Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape.</li> <li>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</li> <li>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</li> </ul>	<ul style="list-style-type: none"> <li>Explore how to make structures stronger.</li> <li>Investigate different techniques for stiffening a variety of materials.</li> <li>Test different methods of enabling structures to remain stable.</li> <li>Join appropriately for different materials and situations e.g. glue, tape.</li> <li>Mark out materials to be cut using a template.</li> <li>Use a glue gun with close supervision.</li> </ul>	<ul style="list-style-type: none"> <li>Join appropriately for different materials and situations e.g. glue, tape.</li> <li>Try out different axle fixings and their strengths and weaknesses.</li> <li>Make vehicles with construction kits which contain free running wheels.</li> <li>Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</li> <li>Roll paper to create tubes.</li> <li>Cut dowel using hacksaw and bench hook.</li> <li>Attach wheels to a chassis using an axle.</li> <li>Mark out materials to be cut using a template.</li> <li>Fold, tear and cut paper and card.</li> <li>Cut along lines, straight and curved.</li> <li>Use a hole punch.</li> <li>Insert paper fasteners for card.</li> <li>Experiment with levers and sliders to find different ways of making things move in a 2D plane.</li> </ul>

## Skills and progression in Year 3 and 4

## Design and Technology

Design		Make	Evaluate
<ul style="list-style-type: none"> <li>Develop more than one design or adaptation of an initial design.</li> <li>Plan a sequence of actions to make a product.</li> <li>Record the plan by drawing using annotated sketches.</li> <li>Begin to use cross-sectional and exploded diagrams.</li> <li>Use prototypes to develop and share ideas.</li> <li>Think ahead about the order of their work and decide upon tools and materials.</li> <li>Propose realistic suggestions as to how they can achieve their design ideas.</li> <li>Consider aesthetic qualities of materials chosen.</li> <li>Use CAD where appropriate.</li> </ul>		<ul style="list-style-type: none"> <li>Prepare pattern pieces as templates for their design.</li> <li>Cut slots.</li> <li>Cut internal shapes.</li> <li>Select from a range of tools for cutting shaping joining and finishing.</li> <li>Use tools with accuracy.</li> <li>Select from techniques for different parts of the process.</li> <li>Select from materials according to their functional properties.</li> <li>Plan the stages of the making process.</li> <li>Use appropriate finishing techniques.</li> </ul>	<ul style="list-style-type: none"> <li>Investigate similar products to the one to be made to give starting points for a design.</li> <li>Draw/sketch products to help analyse and understand how products are made.</li> <li>Research needs of user.</li> <li>Identify the strengths and weaknesses of their design ideas in relation to purpose/user.</li> <li>Decide which design idea to develop.</li> <li>Consider and explain how the finished product could be improved.</li> <li>Discuss how well the finished product meets the design criteria of the user.</li> <li>Investigate key events and individuals in Design and Technology.</li> </ul>
Food	Textiles	Structures	Mechanical and Electrical Systems and ICT
<ul style="list-style-type: none"> <li>Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</li> <li>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury).</li> <li>Follow instructions/recipes.</li> <li>Make healthy eating choices – use the <i>Eatwell plate</i>.</li> <li>Join and combine a range of ingredients.</li> <li>Explore seasonality of vegetables and fruit.</li> <li>Find out which fruit and vegetables are grown in countries/continents studied in Geography.</li> <li>Develop understanding of how meat/fish are reared/caught.</li> </ul>	<ul style="list-style-type: none"> <li>Develop vocabulary for tools materials and their properties.</li> <li>Understand seam allowance.</li> <li>Join fabrics using running stitch, over sewing, blanket stitch.</li> <li>Prototype a product using J cloths.</li> <li>Use prototype to make pattern.</li> <li>Explore strengthening and stiffening of fabrics.</li> <li>Explore fastenings (inventors?) and recreate some.</li> <li>Sew on buttons and make loops.</li> <li>Use appropriate decoration techniques.</li> </ul>	<ul style="list-style-type: none"> <li>Develop vocabulary related to the project.</li> <li>Create shell or frame structures.</li> <li>Strengthen frames with diagonal struts.</li> <li>Make structures more stable by giving them a wide base.</li> <li>Measure and mark square section, strip and dowel accurately to 1cm.</li> </ul>	<ul style="list-style-type: none"> <li>Develop vocabulary related to the project.</li> <li>Use mechanical systems such as gears, pulleys, levers and linkages.</li> <li>Incorporate a circuit into a model.</li> <li>Use electrical systems such as switches bulbs and buzzers.</li> <li>Use ICT to control products.</li> <li>Use lolly sticks/card to make levers and linkages.</li> <li>Use linkages to make movement larger or more varied.</li> </ul>

## Skills and progression in Year 5 and 6

## Design and Technology

Design		Make	Evaluate
<ul style="list-style-type: none"> <li>▪ List tools needed before starting the activity.</li> <li>▪ Plan the sequence of work e.g. using a storyboard.</li> <li>▪ Record ideas using annotated diagrams.</li> <li>▪ Use models, kits and drawings to help formulate design ideas.</li> <li>▪ Combine modelling and drawing to refine ideas.</li> <li>▪ Devise step by step plans which can be read / followed by someone else.</li> <li>▪ Use exploded diagrams and cross-sectional diagrams to communicate ideas.</li> <li>▪ Sketch and model alternative ideas.</li> <li>▪ Decide which design idea to develop.</li> </ul>		<ul style="list-style-type: none"> <li>▪ Make prototypes.</li> <li>▪ Develop one idea in depth.</li> <li>▪ Use researched information to inform decisions.</li> <li>▪ Produce detailed lists of ingredients / components / materials and tools.</li> <li>▪ Use a computer to model ideas.</li> <li>▪ Select from and use a wide range of tools.</li> <li>▪ Cut accurately and safely to a marked line.</li> <li>▪ Select from and use a wide range of materials.</li> <li>▪ Use appropriate finishing techniques for the project.</li> <li>▪ Refine their product – review and rework/improve.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Research and evaluate existing products (including book and web based research).</li> <li>▪ Consider user and purpose.</li> <li>▪ Identify the strengths and weaknesses of their design ideas.</li> <li>▪ Give a report using correct technical vocabulary.</li> <li>▪ Consider and explain how the finished product could be improved related to design criteria.</li> <li>▪ Discuss how well the finished product meets the design criteria of the user. Test on the user!</li> <li>▪ Understand how key people have influenced design.</li> </ul>
Food	Textiles	Structures	Mechanical and Electrical Systems and ICT
<ul style="list-style-type: none"> <li>▪ Prepare food products taking into account the properties of ingredients and sensory characteristics.</li> <li>▪ Weigh and measure using scales.</li> <li>▪ Select and prepare foods for a particular purpose.</li> <li>▪ Work safely and hygienically.</li> <li>▪ Show awareness of a healthy diet (using the eatwell plate).</li> <li>▪ Use a range of cooking techniques.</li> <li>▪ Know where and how ingredients are grown and processed.</li> <li>▪ Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use the correct vocabulary appropriate to the project.</li> <li>▪ Create 3D products using patterns pieces and seam allowance.</li> <li>▪ Understand pattern layout.</li> <li>▪ Decorate textiles appropriately (often before joining components).</li> <li>▪ Pin and tack fabric pieces together.</li> <li>▪ Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision).</li> <li>▪ Combine fabrics to create more useful properties.</li> <li>▪ Make quality products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use the correct terminology for tools materials and processes.</li> <li>▪ Use bradawl to mark hole positions.</li> <li>▪ Use hand drill to drill tight and loose fit holes.</li> <li>▪ Cut strip wood, dowel, square section wood accurately to 1mm.</li> <li>▪ Join materials using appropriate methods.</li> <li>▪ Build frameworks to support mechanisms.</li> <li>▪ Stiffen and reinforce complex structures.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Develop a technical vocabulary appropriate to the project.</li> <li>▪ Use mechanical systems such as cams, pulleys and gears.</li> <li>▪ Use electrical systems such as motors.</li> <li>▪ Program, monitor and control using ICT.</li> </ul>