



Beeston Primary School Design and Technology Progression Grid



Design and Technology is an inspiring, rigorous and practical subject. It uses creativity and imagination to help pupils design and create products that solve relevant problems in a variety of contexts. Children will need to draw on disciplines such as mathematics, science, engineering and art, and learn to take risks to become resourceful, innovative and enterprising citizens. They will learn to evaluate past and present technology, develop a critical understanding of its impact in the world.

DT provides a focus within the curriculum for a critical understanding current and past technology; and how it affects daily life in the wider world.

DT can encourage pupils to think creatively, using their imagination to design and make products that could serve a purpose in today's society. It encourages them to think about their own needs, and the needs of others in order to innovate something that could help.

	Research	Design	Make (construction, textiles and food)	Evaluate
<p>EYFS (Nursery and Reception)</p>	<p>ELG</p> <p><u>Expressive Arts and Design (Exploring and Using Media and Materials):</u> Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p><u>Expressive Arts and Design (Being Imaginative):</u> Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their ideas, thoughts and feelings through DT and art.</p> <p><u>Physical Development:</u> Children handle equipment and tools effectively.</p>			

<p>KS1 (Year 1 & 2)</p>	<ul style="list-style-type: none"> - I can safely use and explore a variety of materials, tools and techniques - I can experiment with colour, design, texture, form and function - I can use what I have learnt about media and materials in original ways, considering purpose - I can represent my ideas, thoughts and feelings through DT 	<ul style="list-style-type: none"> - Engage in an iterative process of designing - Work in a range of relevant contexts (home and school, garden, playground, local community) - Use talk, drawing, templates, mock ups and information and communication technology to share ideas <p>Children will be able to:</p> <ul style="list-style-type: none"> - Discuss what they want to make in relation to a design-brief - Use knowledge of existing products to generate ideas - Draw a labelled picture of their product (parts, components, materials) - Choose materials from a selection provided - List materials, ingredients, tools needed - Plan and test with 'mock-ups' <p>Food and Cookery:</p> <ul style="list-style-type: none"> - Understand that the basic principles of healthy and varied diet feature within their design - Create a basic recipe, using drawings and labels 	<ul style="list-style-type: none"> - Children select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing) - Children select from and use a wide range of materials and components including construction materials, textiles, ingredients, according to their characteristics <p>Children will be able to:</p> <p>Construction:</p> <ul style="list-style-type: none"> - Mark materials before cutting and sometimes measure - Select from a range of hand tools and equipment - Use equipment safely - With support, follow a plan - Begin to choose the most effect joining methods - Use simple components (eg. split pins) - Test their product as they work <p>Textiles:</p> <ul style="list-style-type: none"> -Use simple paper pattern pieces - Manipulate fabrics in simple ways to create the desired effect - Use a basic running stitch and learning sewing basics (threading a needle, knotting a thread, finishing off) - Use simple finishing techniques to improve the appearance of their product (decorations) <p>Food:</p> <ul style="list-style-type: none"> - Use kitchen equipment safely and, with support, follow hygiene procedures - Use a knife and chopping board to chop some ingredients - With support, follow a recipe - Cut, peel and grate ingredients - With support, measure and weigh some ingredients - Carefully roll a wrap and serve food in an appealing way - Clean and wash up after themselves 	<ul style="list-style-type: none"> -Children explore and evaluate a range of existing products – say what is good/not good and what they like/dislike - Evaluate their ideas and products against a design criteria <p>Children will be able to:</p> <ul style="list-style-type: none"> - Describe what went well and what aspects of their design they are pleased with - Describe anything that didn't work and explain changes they had to make - Suggest improvements - Explore what materials products are made from - Talk about their design ideas and what they are making
<p>LKS2 (Year 3 & 4)</p>	<ul style="list-style-type: none"> - I can safely use and explore a variety of materials, tools and techniques - I can experiment with colour, design, texture, form and function - I can use what I have learnt about media and materials in original ways, considering purpose - I can represent my ideas, thoughts and feelings through DT 	<ul style="list-style-type: none"> - Engage in an iterative process of designing - Work in a range of relevant contexts - Use research and develop design criteria to inform design of innovative, functional and appealing products that are 'fit for purpose' - Generate, develop, model and communicate ideas through discussion, annotated sketches, diagrams, prototypes and computer aided design (where 	<ul style="list-style-type: none"> - Children select from and use a wider range of tools and equipment to perform practical tasks - 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>Children will be able to:</p> <p>Construction:</p> <ul style="list-style-type: none"> - Place main stages of making in a systematic order - Measure and mark materials before cutting accurately - Score and fold paper/card accurately - Test their product as they work and make adjustments where necessary to ensure design 	<ul style="list-style-type: none"> - Children investigate and analyse a range of existing products - Evaluate their ideas and products against their own design criteria and consider views of others to make improvements - Consider how key events and individuals in DT have helped shape the world <p>Children will be able to:</p> <ul style="list-style-type: none"> - Explore and evaluate existing products and decide if they are fit for purpose - Identify and discuss strengths and areas for development of the product - Discuss whether the product meets the requirements of the brief/needs of the

		<p>appropriate</p> <p>Children will be able to:</p> <ul style="list-style-type: none"> - Use their research to develop some of their own design criteria - Use knowledge of existing products to help generate their ideas - Choose the materials/ingredients/tools they will use, based on their suitability to the task - Identify features of their product that will appeal to target customers - Draw a fully labelled sketch/diagram of their product, including some measurements - Design innovative products with a clear purpose and target audience - Test ideas with prototypes before a final design 	<p>meets criteria</p> <ul style="list-style-type: none"> - Apply prior knowledge to make structures stiffer and more stable - Use wide range of tools safely - Use a wider range of materials and join with a variety of methods - Create a basic electrical circuit to use in the product <p>Textiles:</p> <ul style="list-style-type: none"> - With increasing independence, measure and mark out to cm and mm - Measure, cut, shape and join fabric with some accuracy - Make and use simple paper pattern pieces - Join fabric with basic sewing techniques (threading a needle, knotting thread, finishing off) - Sew using running stitch attempting to produce neat, equal stitches - Create design on fabric using applique, pens/paint and with sewing using basic techniques (buttons/sequins/ribbons) <p>Food:</p> <ul style="list-style-type: none"> - Observe basic food hygiene procedures (wash hands, wash fruit/veg, avoid cross contamination when preparing raw meat; clean surfaces before and after preparation) - Use appropriate tools to peel, chop, slice, grate and mix ingredients - Knead and roll out dough - Cook product in the oven, ensuring it is fully cooked - Serve food in an appealing way - Clean and wash up after themselves 	<p>user – pose the question: is it fit for purpose?</p> <ul style="list-style-type: none"> - Take part in peer evaluation, giving and receiving feedback from fellow pupils
<p>UKS2</p> <p>(Year 5 & 6)</p>	<ul style="list-style-type: none"> - I can safely use and explore a variety of materials, tools and techniques - I can experiment with colour, design, texture, form and function - I can use what I have learnt about media and materials in original ways, considering purpose - I can represent my ideas, thoughts and feelings through DT 	<ul style="list-style-type: none"> - Engage in an iterative process of designing - Work in a range of relevant contexts - Use research and develop design criteria to inform design of innovative, functional and appealing products that are 'fit for purpose' - Generate, develop, model and communicate ideas through discussion, annotated sketches, diagrams, prototypes and computer aided design (where appropriate) <p>Children will be able to:</p> <ul style="list-style-type: none"> - Use their research to develop their own design criteria - Use their knowledge of existing 	<ul style="list-style-type: none"> - Children select from a wider range of tools and equipment to perform practical tasks - The 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>Children will be able to:</p> <p>Construction:</p> <ul style="list-style-type: none"> - With support, create a step by step plan for making their product - Use a range of tools and equipment safely - Measure and mark materials with increased accuracy before cutting, choosing appropriate tools - Join materials using suitable methods - Test product and make informed adjustments, striving to address potential problems - Apply prior knowledge to make their product stiffer/more stable - Use pulleys and gears to create a working 	<ul style="list-style-type: none"> - Children will investigate and analyse a range of existing products - They will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work - They understand how key events and individuals in design and technology have helped shape the world. <p>Children will be able to:</p> <ul style="list-style-type: none"> - Identify and discuss the strengths of their product and recognise any areas for development/improvements - Discuss whether their product meets the requirements of the brief/needs of the user ('fit for purpose?') - Take part in peer evaluation in the giving and receiving of feedback from fellow pupils

		<ul style="list-style-type: none"> products to inform their design Draw a fully labelled/annotated sketch or diagram of their product including measurements Indicate where mechanisms will go and how they will function Choose the materials/tools they will use based on suitability to the task (including sourcing their own materials where appropriate) Write brief instructions on how they intend to make the product 	<ul style="list-style-type: none"> mechanism to incorporate in their product (the same with an electrical circuit) Create a polished and well-finished product that is 'fit for purpose' <p>Textiles:</p> <ul style="list-style-type: none"> use a full range of materials and components, including construction materials and kits, textiles, and mechanical components cut a range of materials with increasing precision make/use a paper pattern (front and back pieces) Include a seam allowance Maintain a good understanding of the sewing basics (threading a needle, knotting a thread and finishing off) and sew neatly using a running stitch/back stitch Use turning out to hide stitching Create designs on fabric using paint, pens and applique Make an attempt to include a fastening component (zip/button) <p>Food:</p> <ul style="list-style-type: none"> Observe basic food hygiene procedures (wash hands, wash fruit and veg, avoid cross contamination when preparing raw meat, and clean surfaces before and after prep) Use appropriate tools to peel, chop, slice, grate and mix ingredients Have an understanding of how to cook food using an oven and/or stove top, ensuring their food is fully cooked Serve food in an appealing way Clean and wash up after themselves 	
Vocabulary	<p><u>Foundation Stage:</u></p> <p>Design: designer materials tools construct</p> <p>Construction: Make Cut Join strong</p> <p>Food: ingredients healthy cook taste</p>	<p><u>Key Stage 1 (Years 1 & 2)</u></p> <p>Design: designer materials tools brief product evaluate label technology problem-solving</p> <p>Construction boat buoyant (Science) water-proof (Science) stable Isambard Kingdom Brunel</p>	<p><u>LKS2 (Years 3 & 4)</u></p> <p>Design: technology product intended user annotated sketch component design criteria computer-aided design</p> <p>Construction: net scoring tab accuracy packaging product designer</p>	<p><u>UKS2 (Years 5 & 6)</u></p> <p>Design: technology product intended user design criteria Cross- sectional diagram exploded diagram innovation</p> <p>Construction: frame structure triangulation strengthen reinforce greenhouse agricultural engineering architect</p>

		<p>Textiles: textiles needle thread pin pattern piece applique</p> <p>Food: ingredients hygiene balanced nutritious appealing Jamie Oliver</p>	<p>graphic designer shelf-appeal battery circuit switch bulb electrical engineer Alexander Graham Bell Nikola Tesla</p> <p>Textiles: pattern piece running stitch cross stitch applique embroidery textile designer Cath Kidston</p> <p>Food: hygiene grown reared local producer seasonal produce dough knead bake</p>	<p>mechanical system pulley driver follower load transport mechanical engineer</p> <p>Textiles: Pattern pieces back stitch tension seam allowance turn out fastener fashion designer ethical product corporate social responsibility</p> <p>Food: hygiene cross contamination local produce seasonality cooking technique deconstructed food Heston Blumenthal</p>
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