

Haslington Primary Academy and Nursery
D&T Progression of Skills



2-3	3-4	Reception	Key Stage 1	Key Stage 2
<p>PD: build independently with a range of resources. Explore different materials and tools.</p> <p>UW: Explore materials with different properties.</p> <p>EA&D: start to make marks intentionally. Explore paint, using fingers and other parts of their bodies as well as brushes and other tools. Explore different materials, using all of their senses to investigate them. Manipulate and play with different materials. Use their imagination as they consider what they can do with different materials. Make simple models which express their ideas.</p>	<p>PSED: Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.</p> <p>PD: Use large-muscle movements to wave flags and streamers, paint and make marks. Choose the right resources to carry out their own plan.</p> <p>UW: Explore how things work.</p> <p>EA&D: Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.</p>	<p>Children safely use and explore 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. Children represent their own ideas, thoughts and feelings through design and technology.</p>	<p>Design design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Make select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate explore and evaluate a range of existing products evaluate their ideas and products against design criteria</p> <p>Technical knowledge</p>	<p>Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 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> <p>Evaluate Investigate and analyse a range of existing products</p>

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	<p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Create closed shapes with continuous lines, and begin to use these shapes to represent objects.</p>		<p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>Cooking and nutrition</p> <p>use the basic principles of a healthy and varied diet to prepare dishes</p> <p>understand where food comes from.</p>	<p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical knowledge</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>Apply their understanding of computing to program, monitor and control their products.</p> <p>Cooking and nutrition</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p>
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Design	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Talk about what they want to make, in relation to the design brief and their research.</p> <p>Draw a labelled picture of their product, which may include parts, components, materials.</p> <p>Choose the materials/ingredients/tools they will use, from a selection.</p> <p>Write a list of the materials/ ingredients/tools they will need.</p> <p>Cooking and nutrition</p> <p>Understand that the basic principles of a healthy and varied diet feature within their design.</p> <p>Create a basic recipe, using drawings and labels.</p>	<p>Use their research to develop some of their own design criteria.</p> <p>Draw a fully labelled sketch/diagram of their product, including some measurements.</p> <p>Indicate where electrical components will go and briefly explain how they will function.</p> <p>Choose the materials/ ingredients /tools they will use, based on their suitability for the task.</p> <p>List the materials/ ingredients/tools they will need.</p> <p>Order the main stages of making.</p> <p>Use computer aided design.</p> <p>Cooking and nutrition</p> <p>Use the principles of a healthy and varied diet to help inform their design decisions.</p> <p>Understand seasonality and locality of food and use this knowledge when designing their product.</p> <p>Create/adapt a recipe, including some weight/volume measurements.</p>	<p>Use their research to develop their own design criteria.</p> <p>Draw a fully labelled/annotated sketch/diagram of their product, including measurements and cross-sections.</p> <p>Indicate where/how materials will be joined in order to create a stable structure.</p> <p>Indicate where electrical components will go and explain how they will function.</p> <p>Explain how computer programming will control the product.</p> <p>Indicate where mechanisms will go and explain how they will function</p> <p>Choose the materials/ingredients/tools they will use, based on their suitability for the task, including sourcing their own materials where appropriate.</p> <p>List the materials/ ingredients/tools they will need.</p> <p>Write (brief) instructions for how they intend to make their product.</p> <p>Cooking and nutrition</p> <p>Independently apply the principles of a healthy and varied diet to inform their design decisions.</p> <p>Apply their knowledge of seasonality and locality of food to inform their design decisions.</p> <p>Create/adapt a recipe, including weight/volume measurements.</p>

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Make – Construction, mechanics and electronics	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Mark materials before cutting and sometimes measure.</p> <p>Cut paper and other materials safely and with increasing accuracy.</p> <p>Begin to choose the most effective joining methods for the task/materials.</p> <p>Use simple components, such as split pins.</p> <p>Test their product as they work, to see if it meets the requirements of the intended user.</p> <p>Apply their knowledge of materials to make a structure stiffer/ more stable as they work. Mark out materials to be cut using a template.</p> <p>Attach wheels to chassis using an axle.</p> <p>With support cut strip wood/dowel using a hacksaw.</p> <p>Make vehicles with construction kits which contain free running wheels.</p> <p>Use a range of materials to create models with wheels and axles e.g. tubes, dowel and cotton reels.</p>	<p>Measure and mark materials before cutting.</p> <p>Cut materials accurately, using appropriate tools.</p> <p>Score and fold paper/card accurately.</p> <p>Join a range of materials using a variety of methods, usually choosing the method most suited to the task.</p> <p>Test their product as they work, making informed adjustments to ensure their product meets the design criteria.</p> <p>Apply their prior knowledge and understanding to make structures stiffer/ more stable as they work.</p> <p>Begin to use mechanical systems in their products e.g. gears, pulleys and levers</p> <p>Create a basic electrical circuit and incorporate it into their product.</p> <p>Pay attention to the finishing of their product.</p>	<p>Measure and mark materials with increased accuracy, before cutting.</p> <p>Cut materials accurately, using appropriate tools.</p> <p>Join a range of materials using a variety of suitable methods.</p> <p>Test their product as they work, making informed adjustments and striving to address any anticipated problems.</p> <p>Apply their prior knowledge and understanding to make structures stiffer/ more stable as they work.</p> <p>Build frameworks using a range of materials e.g. wood, card and corrugated plastic.</p> <p>Use a cam to make an up and down mechanism.</p> <p>Create circuits that employ a number of components (such as LEDs, resistors and transistors).</p> <p>Programme a computer to control their product.</p> <p>Create a polished and well-finished product.</p>

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Make - Structures	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project.</p>	<p>Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Know and use technical vocabulary relevant to the project.</p>	<p>Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.</p>

Make – Mechanisms/ mechanical systems	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles Know and use technical vocabulary relevant to the project.</p>	<p>Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project.</p>	<p>Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.</p>

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Make – Electrical systems	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
		<p>Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products. Know and use technical vocabulary relevant to the project.</p>	<p>Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.</p>

Make - Textiles	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques Know and use technical vocabulary relevant to the project.</p>	<p>Making/using simple paper pattern pieces. Cutting fabric carefully. Learning sewing basics – threading a needle, knotting your thread, finishing off. Sewing using running stitch, attempting to produce neat, equal stitches Creating a design on fabric using applique. Creating a design on fabric using pens/paint. Sewing basics – threading a needle, knotting your thread, finishing off. Sewing on simple components – buttons/sequins/ribbons. Using stuffing</p>	<p>Making/using a paper pattern (front and back pieces). Including a seam allowance. Cutting fabric accurately. Sewing basics – threading a needle, knotting your thread, finishing off. Sewing neatly using running stitch/back stitch. Turning out so stitching is hidden. Creating designs on fabric using applique/pens/paint.</p>

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Make - food	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Understand where food comes from. Group familiar food products e.g. fruit and vegetables. Group foods into the five groups in The Eatwell Plate. Cut ingredients safely. Prepare simple dishes-safely and hygienically-without using a heat source.</p>	<p>Cut materials accurately and safely by selecting appropriate tools. Know that a healthy diet is made up from a variety of different food and drink, as depicted in The Eatwell Plate. Measure and weigh ingredients appropriately including using scales Follow a recipe</p>	<p>Assemble or cook ingredients, controlling the temperature of the oven or hob if cooking. Measure accurately using different equipment. Create recipes, including ingredients, methods, cooking times and temperatures. Understand the importance of correct storage and handling of ingredients.</p>

Evaluate	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
	<p>Describe what went well and which aspects of their product they are pleased with. Describe anything that didn't work as well and any changes they had to make. Discuss what the intended user might think about the product. Suggest how their product could be improved.</p>	<p>Identify and discuss the strengths of their product. Identify any areas for development/ improvements that could be made. Discuss whether the product meets the requirements of the brief/the needs of the user – is it fit for purpose? Take part in peer evaluation, giving and receiving feedback from fellow pupils.</p>	<p>Identify and discuss the strengths of their product. Identify any areas for development/ improvements that could be made. Discuss whether the product meets the requirements of the brief/the needs of the user – is it fit for purpose? Take part in peer evaluation, giving and receiving feedback from fellow pupils.</p>