

Key Skills

Develop creative, technical and practical expertise to problem solve.

Design and make high quality prototypes and products for a range of users.

Critique, evaluate and test ideas and products.

Great Denham Primary School

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DT

	Pre-School	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	<p>Begin to draw a design of their own</p> <p>Use materials to create a picture of their design</p> <p>Talk about what they are doing during each stage</p>	<p>Make pictures of their design saying what they want to make</p> <p>Use criteria to design and make purposeful, functional items</p> <p>Create a prototype and critique and redraft product</p>	<p>Design and make purposeful and functional products</p> <p>Use pictures and words to convey what they want to design and make</p> <p>Describe and explain what they are making, how it works and what they need to do next</p>	<p>Design and make purposeful, functional and appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT.</p> <p>Discuss their work as it progresses</p>	<p>Use research to develop the design of functional and appealing products</p> <p>Record plan by drawing labelled sketches or writing and discuss this while working</p>	<p>Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose</p> <p>Consider different ways in which they can creatively record their planning to engage an audience</p>	<p>Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at particular groups or individuals</p> <p>Develop and communicate design ideas using annotated sketches, detailed plans, oral and digital presentations</p>	<p>Use research and exploration to identify and understand user needs when designing a product</p> <p>Generate, develop, model and communicate design ideas using discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes detailed plans, oral and digital presentations and computer based tools</p>

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Make	<p>Use and explore a variety of materials</p> <p>Use a variety of tools and techniques</p>	<p>Use equipment safely</p> <p>Use the correct tools for the job</p> <p>Know the tools they are using</p>	<p>Name the tools you are using</p> <p>Explore ideas by rearranging materials e.g. paper, card, ingredients, fabrics, sequins, buttons, tubes, dowel, cotton reels, paper, card, mouldable materials</p> <p>Use given tools for a variety of tasks e.g. Knife, grater, chopping board, scissors, needles, pins, scissors, templates, glue, tape</p> <p>Join appropriately for different materials and situations</p>	<p>Select from, name and use a range of tools and equipment to perform practical tasks (Eg, cutting, shaping, joining and finishing)</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	<p>Think ahead about the order of their work and plan tools and materials needed. E.g. Weighing scales, glue gun, ruler</p> <p>Consider working characteristics of materials</p>	<p>Use tools and equipment, including those needed to weigh and measure ingredients, with accuracy</p> <p>Join and combine a range of materials, some with temporary, fixed or moving joints</p>	<p>Select and use tools and equipment for a range of uses. E.g. cut and shape ingredients, join fabrics, cut accurately and safely, use bradawl to mark holes, hand drill and pin and tacks during textile work</p> <p>Join and combine a range of materials and ingredients using appropriate methods. E.g. beating, rubbing in, drilling, gluing, sewing, screwing</p>	<p>Select from and use specialist tools and techniques for a range of uses. E.g. Whisk, craft knife, cutting mat, safety ruler</p> <p>Select from and use a wider range of materials, components and ingredients taking into account their aesthetic properties</p>

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Evaluate	<p>Represent their own ideas through their work</p> <p>Talks about their creation and how they got to the finished product</p>	<p>Say what they like and dislike about products that are already know</p> <p>Begin to say how they could improve a product offering own ideas</p>	<p>Explore existing products</p> <p>Say what they like and do not like about products they have made</p> <p>Consider and explain how the finished product could be improved</p>	<p>Explore and evaluate existing products</p> <p>Talk about their developing designs and identify good points and areas to improve throughout the design process</p> <p>Evaluate their ideas and products against a design criteria</p>	<p>Investigate and analyse a range of existing products</p> <p>Identify strengths and areas to improve in their own design</p> <p>Identify what does and does not work in the product</p>	<p>Use investigations of existing products to inform planning of their own product</p> <p>Check their work as it develops and modify approach in light of progress</p> <p>Discuss how well their product meets the design criteria and the needs of the user</p>	<p>Show a clear understanding of the specification and use this to inform decisions</p> <p>Justify decisions about materials and methods of construction</p> <p>Evaluate products and use of information sources</p>	<p>Test, evaluate and refine ideas and products against a specification</p> <p>Justify decisions made during the design process</p> <p>Evaluate products and use of information sources throughout the process and use this to inform planning</p>
Technical knowledge	<p>Build using a variety of materials</p> <p>Begin to say how they made their structure</p>	<p>Build structures using different materials</p> <p>Begin to make suggestions to make structures stronger and more stable</p> <p>Begin to explore mechanisms such as levers, wheels and axels</p>	<p>Build structures and investigate how they can be made more stable</p> <p>Insert paper fasteners for card linkages</p> <p>Create models with wheels and axels</p>	<p>Build structures and investigate how they can be made stronger, stiffer and more stable</p> <p>Use a range of materials to create models with wheels, axels or hinges</p> <p>Explore and use mechanisms: temporary, fixed and moving joints (levers, sliders)</p>	<p>Join and combine materials with temporary, fixed or moving joints</p> <p>Create shell or frame structures and make structures more stable</p> <p>Understand and use electrical systems in their products: a circuit with a bulb or buzzer in a model</p>	<p>Create prototypes of shell or frame structures to inform design process</p> <p>Strengthen frames with diagonal struts</p> <p>Use lolly sticks/card to make levers and linkages</p>	<p>Use linkages to make movement larger or more varied</p> <p>Build frameworks using a range of materials e.g. wood, corrugated card, plastic to support mechanisms</p> <p>Understand and use electrical systems in their products: Incorporate motor and a switch into a model</p>	<p>Control a model using an ICT control programme</p> <p>Build complex frameworks using a range of materials to support mechanisms</p> <p>Understand and use electrical systems in their products: Use a CAM to make an up and down mechanism</p>

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	Throughout: understand how key events and individuals in design and technology have helped shape the world.							
<i>Cooking & nutrition</i>	Name and identify everyday fruit and vegetables.	Understand the importance of breakfast and The need to have a mixture of different food types.	Use a range of basic cooking equipment (eg knife, chopping board, spoon, fork, bowl) Design, make and evaluate (discuss what they likes/didn't like) about a dish of their choice.	<i>Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.</i>	Understand how different ingredients are produced. Name and identify some seasonal ingredients. Prepare a simple dish safely and hygienically.	<i>Understand and apply the principles of a healthy and varied diet. Understand food group proportions. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Prepare a simple dish safely and hygienically.</i>	Develop food preparation skills (including bridge hold and claw grip, Prepare a dish safely and hygienically.	Understand and apply the principles of a healthy and varied diet. <i>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</i>

Blue text signifies statutory requirement.