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| KS1 – Design and Technology |
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| Y1 | Y2 |
| **Key knowledge –know about** | **Key knowledge –know about** |
| **Cooking and Nutrition*** Talk about what he/she eats at home and begin to discuss what healthy foods are
* Say where some food comes from and give examples of food that is grown
* Use simple tools with help to prepare food safely
 | **Cooking and Nutrition*** Understand the need for a variety of food in a diet
* Understand that all food has to be farmed, grown or caught
* Use a wider range of cookery techniques to prepare food safely
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| **Processes*** Create simple designs for a product
* Use pictures and words to describe what he/she wants to do
* Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing
* Use a range of simple tools to cut, join and combine materials and components safely
* Ask simple questions about existing products and those that he/she has made
* Build structures, exploring how they can be made stronger, stiffer and more stable
* Use wheels and axles in a product
 | **Processes*** Design purposeful, functional, appealing products for himself/herself and other users based on design criteria
* Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
* Choose appropriate tools, equipment, techniques and materials from a wide range
* Safely measure, mark out, cut and shape materials and components using a range of tools
* Evaluate and assess existing products and those that he/she has made using a design criteria
* Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable
* Explore and use mechanisms e.g. levers, sliders, wheels and axles, in his/her products
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| KS2 –Design and Technology |
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| Y3 | Y4 |
| **Key knowledge –know about** | **Key knowledge –know about** |
| **Cooking and Nutrition*** Talk about the different food groups and name food from each group
* Understand that food has to be grown, farmed or caught in Europe and the wider world
* Use a wider variety of ingredients and techniques to prepare and combine ingredients safely
 | **Cooking and Nutrition*** Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active
* Understand seasonality and the advantages of eating seasonal and locally produced food
* Read and follow recipes which involve several processes, skills and techniques
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| **Processes*** Use a wider variety of ingredients and techniques to prepare and combine ingredients safely
* Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes
* Safely measure, mark out, cut, assemble and join with some accuracy
* Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them
* Investigate and analyse existing products and those he/she has made, considering a wide range of factors
* Strengthen frames using diagonal struts
* Understand how mechanical systems such as levers and linkages or pneumatic systems create movement
 | **Processes*** Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience
* Create designs using exploded diagrams
* Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks
* Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them
* Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user
* Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas
* Understand and use electrical systems in products
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| Y5 | Y6 |
| **Key knowledge –know about** | **Key knowledge –know about** |
| **Cooking and Nutrition*** Understand the main food groups and the different nutrients that are important for health
* Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable / tasty to eat
* Select appropriate ingredients and use a wide range of techniques to combine them
 | **Cooking and Nutrition*** Confidently plan a series of healthy meals based on the principles of a healthy and varied diet
* Use information on food labels to inform choices
* Research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills
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| **Processes*** Select appropriate ingredients and use a wide range of techniques to combine them
* Create prototypes to show his/her ideas
* Make careful and precise measurements so that joins, holes and openings are in exactly the right place
* Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques
* Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work
* Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable
* Understand how to use more complex mechanical and electrical systems
 | **Processes*** Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products
* Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
* Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities
* Use technical knowledge accurate skills to problem solve during the making process
* Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made
* Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately
* Apply his/her understanding of computing to program, monitor and control his/her product
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