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| LONG TERM PLAN Key Stage 2 Design Technology 2018/2019 |
| Pupils should be taught about: **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

**Make** * select from and use a wider range of tools and equipment to perform practical tasks, such as 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

**Evaluate** * investigate and analyse a range of existing products
* evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
* understand how key events and individuals in design and technology have helped shape the world

**Technical knowledge** * apply their understanding of how to strengthen, stiffen and reinforce more complex structures
* understand and use mechanical systems in their products, (for example as gears, pulleys, cams, levers and linkages)
* understand and use electrical systems in their products, (for example series circuits incorporating switches, bulbs, buzzers and motors)
* apply their understanding of computing to programme, monitor and control their products.

**Cooking and Nutrition** * understand and apply the principles of a healthy and varied diet
* 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.
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| **Year 3** | **Stiff and flexible sheet materials**Do they use the most appropriate materials?Can they work accurately to make cuts and holes?Can they join materials?  | **Textiles** Can they join textiles of different types in different ways?Can they choose textiles both for their appearance and also qualities? | **Mouldable materials** Do they select the most appropriate materials?Can they use a range of techniques to shape and mould?Do they use finishing techniques? | **Electrical and mechanical components**Do they select the most appropriate tools and techniques to use for a given task?Can they make a product which uses both electrical and mechanical components?Can they use a simple circuit?Can they use a number of components? | **Cooking and nutrition**Can they choose the right ingredients for a product?Can they use equipment safely?Can they make sure that their product looks attractive?Can they describe how their combined ingredients come together?Can they set out to grow plants such as cress and herbs from seed with the intention of using them for their food product?  |
| **Year 4** | **Electrical and mechanical components**Can they add things to their circuits?How have they altered their product after checking it?Are they confident about trying out new and different ideas? | **Textiles**Do they think what the user would want when choosing textiles?Have they thought about how to make their product strong?Can they devise a template?Can they explain how to join things in a different way? | **Stiff and flexible sheet materials**Can they measure carefully so as to make sure they have not made mistakes?How have they attempted to make their product strong? | **Cooking and nutrition**Do they know what to do to be hygienic and safe?Have they thought what they can do to present their product in an interesting way? | **Mouldable materials** Can they use a range of advanced techniques to shape and mould?Do they use finishing techniques, showing an awareness of audience? |

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| **Year 5** | **Textiles**Do they think what the user would want when choosing textiles?How have they made their product attractive and strong?Can they make up a prototype first?Can they use a range of joining techniques?  | **Stiff and flexible sheet materials**Are their measurements accurate enough to ensure that everything is precise?How have they ensured that their product is strong and fit for purpose? | **Mouldable materials** Are they motivated enough to refine and further improve their product using mouldable materials? | **Cooking and nutrition**Can they describe what they do to be both hygienic and safe?How have they presented their product well? | **Electrical and mechanical components**Can they incorporate a switch into their product?Can they refine their product after testing it?Can they incorporate hydraulics and pneumatics? |
| **Year 6** | **Stiff and flexible sheet materials**Can they justify why they selected specific materials?How have they ensured that their work is precise and accurate?Can they hide joints so as to improve the look of their product? | **Textiles** Have they thought about how their product could be sold?Have they given considered thought about what would improve their product even more? | **Electrical and mechanical components**Can they use different kinds of circuit in their product?Can they think of ways in which adding a circuit would improve their product? | **Mouldable materials**Can they justify why the chosen material was the best for the task?Can they justify design in relation to the audience? | **Cooking and nutrition**Can they explain how their product should be stored with reasons?Can they set out to grow their own products with a view to making a salad, taking account of time required to grow different foods? |