**Rock Ferry Primary School Design and Technology Long Term Overview – Year 6**

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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Cooking and Nutrition: Vegetarian meals** |
|  | * 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 skill
 | During KS2 pupils should be taught to:* 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

Breadth of study:* 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?
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| **Processes:**  |
| **Developing, planning and communicating ideas** | * 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 sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
 | During KS2 pupils should be taught to:* 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

Breadth of study:* Can they use a range of information to inform their design?
* Can they use market research to inform plans?
* Can they justify design in relation to the audience?
* Can they work within constraints?
* Can they follow and refine their plan if necessary?
* Can they justify their plan to someone else?
* Do they consider culture and society in their designs?
* Have they thought about how their product could be sold?
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| **Working with tools, equipment, materials and components to make quality products****Textiles****Stiff and flexible sheet materials****Mouldable materials** | * 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 and accurate skills to problems solve during the making process
 | During KS2 pupils should be taught to:* Select from and use a range of tools and equipment to perform practical tasks, (for example, cutting, shaping, joining and finishing, accurately)
* Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Breadth of study:* Can they use tools and materials precisely?
* Can they justify why they selected specific materials?
* Can they justify why the chosen material was the best for the task?
* Did they consider the use of the product when selecting materials?
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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Evaluating processes and products** | * Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she has made
 | During KS2 pupils should be taught to:* 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

Breadth of study:* Do they change the way they are working if needed?
* How well do they test and evaluate their final product?
* Have they given considered thought about what would improve the product even more?
* Is it fit for purpose?
* Would different resources have improved their product?
* Would they need more or different information to make it even better?
* Does their product meet all design criteria?
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| **Electrical** **and****mechanical components** | * Apply his/her understanding of computing to program, monitor and control his/her product
 | During KS2 pupils should be taught to:* Understand and use mechanical systems in their products (eg as gears, pulleys, cams, levers and linkages)
* Understand and use electrical systems in their products (eg series circuits incorporating switches, bulbs, buzzers and motors)
* Apply their understanding of computing to programme, monitor and control their products

Breadth of study:* Can they use different kinds of circuit in their product?
* Can they think of ways in which adding a circuit would improve their product?
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| **Construction** | * Use a wide range of methods to strengthen, stiffen and reinforce complex structures and use them accurately and appropriately
 | During KS2 pupils should be taught to:* Apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Breadth of study:* How have they ensured that their work is precise and accurate?
* Can they hide joints so as to improve the look of their product?
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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Food** |  |  |  | **Construction****Mechanisms** | **Textiles** |
| Vegetarian meal |  |  |  | Design and build a bridge | Make a sampler of RFPS memories |