**Rock Ferry Primary School Design and Technology Long Term Overview – Year 4**

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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Cooking and Nutrition: Christmas Food** |
|  | * 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
 | 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:* 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?
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| **Processes: Light box, volcanoes (pneumatic systems), Rainforest animal toy** |
| **Developing, planning and communicating ideas** | * Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience
* Create designs using exploded diagrams
 | 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 come up with at least one idea about how to create their product?
* Do they take account of the ideas of others when designing?
* Are they conscious of the need to produce something that will be liked by others?
* Can they produce a plan and explain it to others?
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| **Working with tools, equipment, materials and components to make quality products****Textiles****Stiff and flexible sheet materials****Mouldable materials** | * Use techniques which require more accuracy to cut, shape, join and finish his/her work eg 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
 | 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 tell if their finished product is going to be good quality?
* Can they show a good level of expertise when using a range of tools and equipment?
* Can they explain how to join things in a different way?
* Do they think what the user would want when choosing textiles?
* Can they devise a template?
* Can they use a range of advanced techniques to shape and mould?
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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Evaluating processes and products** | * Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user
 | 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:* Have they thought of how they will check if their design is successful?
* Do they continue to work at their product even though their original idea might not have worked?
* Can they begin to explain how they can improve their original design?
* Can they evaluate their product, thinking of both appearance and the way it works?
* Do they take time to consider how they could have made their idea better?
* Can they suggest some improvements and say what was good and not so good about their original design?
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| **Electrical** **and****mechanical components** | * Understand and use electrical systems in products
 | 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 add things to their circuits?
* How have they altered their product after checking it?
* Are they confident about trying out new and different ideas?
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| **Construction** | * Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas
 | During KS2 pupils should be taught to:* Apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Breadth of study:* Can they measure carefully so as to make sure they have not made mistakes?
* How have they attempted to make their product strong?
* Do they use finishing techniques, showing an awareness of audience?
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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
|  | **Food** | **Construction****Mechanisms** | **Mechanisms** | **Textiles** |  |
|  | Christmas food | Light box | Volcanoes (pneumatic systems) | Rainforest animal toy |  |