**Rock Ferry Primary School Design and Technology Long Term Overview – Year 5**

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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Cooking and Nutrition: Eating in Benin** |
|  | * 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
 | 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 describe what to do to be both hygienic and safe?
* How have they presented their product well?
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| **Processes: Hanging decorations/saxon purses/ Space (link to levers, gears, pulleys?)** |
| **Developing, planning and communicating ideas** | * Use his/her market research to inform the design of his/her own innovative product
* Create prototypes to show his/her ideas
 | 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 a range of ideas after they have collected information? Do they take a user’s view into account when designing?
* Can they explain how their product will appeal to the audience?
* Can they produce a detailed step by step plan?
* Can they make up a prototype first?
* Can they suggest some alternative plans and say what the good points and drawbacks are about each?
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| **Working with tools, equipment, materials and components to make quality products****Textiles****Stiff and flexible sheet materials****Mouldable materials** | * Make careful and precise measurements so that joins, holes and openings are in exactly the right place
* Product step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques
 | 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 a range of tools and equipment expertly?
* Do they persevere through different stages of the making process?
* Do they think what the user would want when choosing textiles?
* Are they motivated enough to refine and further improve their product using mouldable materials?
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|  | **Target Tracker Assessment Focus** | **Weaving Knowledge, Skills and Understanding** |
| **Evaluating processes and products** | * Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work
 | 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:* Can they explain why their finished product is going to be of good quality?
* Do they keep checking that their design is the best it can be?
* Do they check whether anything could be improved?
* Can they evaluate appearance and function against the original criteria
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| **Electrical** **and****mechanical components** | * Understand how to use more complex mechanical and electrical systems
 | 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 incorporate a cam into their product?
* Can they select the most appropriate cam for their required movement?
* Can they refine their product after testing it?
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| **Construction** | * Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable
 | 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 made their product attractive, strong and fit for purpose
* Can they use a range of joining techniques?
* Are their measurements accurate enough to ensure that everything is precise?
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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Construction** |  | **Textiles** | **Mechanisms** |  | **Food** |
| Hanging decorations |  | Saxon purses | Solar system model with moving parts |  | Benin food |