**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? | | | |
| **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? | | | |
| **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? | | | |
|  | **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? | | | |
| **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? | | | |
| **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? | | | |
| **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 |  | |