Design Technology Curriculum – Cycle A

Lower Key Stage 2 – Spring Term

Theme – Mechanisms

Enquiry Question – How will your model's mouth move?

National Curriculum Coverage

When designing and making, pupils should be taught to:

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 [for example, 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, 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 program, 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.

Generic Knowledge and Skills

Developing, planning & communicating ideas • To take a user's view into account and know it is important when designing. • To create a realistic plan that explain some of the choices they have made i.e. joins, materials, components, finishes.	

• To use labelled sketches and words to accurately describe and explain their design. • To use Purple Mash – 2Design to create a simple design of their product. • To share some improvements they made to their original design. • To use Purple Mash – 2Design to create a 3D image of their light box design. **Working with tools, equipment, materials and components to make quality products** • To use equipment and tools accurately. • To select the most appropriate materials for a product. • Measure, cut, tape, pin or join materials with some accuracy • To use finishing techniques with some accuracy to improve the finish and strength of their product • To work at their product even though their original idea might not have worked. • To begin to tell if their finished product is going to be good quality. **Evaluating processes and products** • To explore who designed and made the product • To explore and evaluate when and where products were designed and made • To evaluate how well the product has been designed and how well it works • To evaluate why materials have been chosen • To refer to the design brief as they design and make their product • To think of how they will check if their design is successful. • To evaluate their product, thinking of both appearance and the way it works. • To take time to consider and explain how they could have made their idea better. T	
Specific Knowledge and Skills	Vocabulary
Mechanisms • To explore different pneumatic components. • To design and create a product that moves using a pneumatic component. ***(Tools:** tape, card, syringe, tube, balloon pump, balloons)* **Construction** • To join materials using temporary and permanent fixings (glue gun) • To know where to apply joining techniques to make the model strong and stable. 	