

	Term 1	Term 2	Term 3
Unit of work	Mechanical systems – Levers and linkages Project – making a moving story	Structures - Shell Structures Project – making a biscuit packet	Food - healthy and varied diet, provenance Project - making bread rolls
Link to Programme of study	Design - Design purposeful, functional, appealing products for a range of users - Use given design criteria - Generate, develop and communicate ideas through talking, drawing, templates, mock-ups and ICT (when appropriate) Make - Select and use a range of tools and equipment - Use skills such as cutting, shaping, joining and finishing - Select and use a wide range of materials and components according to characteristics (functional and aesthetic) Evaluate - Explore and evaluate a range of existing products - Evaluate ideas and products against given design criteria Technical knowledge - Build structures - Explore how structures can be made stronger, stiffer and more stable - Explore and use mechanisms (levers, sliders, wheels, axles) Cooking and nutrition - Use the basic principles of a healthy and varied diet to prepare dishes - Understand where food comes from.		
Composite knowledge (questions to be answered)	Which part of the card is the linkage/lever? Which are the fixed pivots and which are the loose pivots? How do the lever, linkage and pivot work together to create movement?	What is a shell structure? How can we join our shell structure? What is triangulation and how does it help?	What is a balanced diet? Where do different types of food come from? What equipment and resources do we need to use to combine and prepare food? How can we prepare food hygienically? Why do we follow instructions when cooking? How can we prepare food safely?
Component knowledge	Identify successfully levers and linkages in systems	Describe what a simple shell structure is and observe shell structures in the local area	Follow a recipe with accuracy

(Intentional knowledge they need to understand)	Identify fixed and loose pivots in a mechanical system	Observe and construct a variety of different methods to join a shell structure Recognise methods of strengthening and reinforcing shell structures.	Understand that a balance diet consists of the 5 food groups in appropriate amounts. Demonstrate and recognise hygienic methods of food preparation
Key knowledge and skills for assessment	Children can use scissors to cut accurate shapes from card. Children can use fixed and loose pivots to create movement. Children can use levers to make their design move. Children can use a design brief to create an appropriate design. Children can evaluate final products and discuss them.	Children can understand what a net is and how it forms a 3D shape. Children can use tabs to join 3D shapes. Children can design packaging thinking about purpose and aesthetic. Children can use scissors to accurately cut out card. Children can evaluate final products and discuss them.	Children can understand that a balanced diet is important to stay healthy. Children can discuss and apply how to prepare food safely. Children can understand where a range of foods come from. Children can use scales to weigh ingredients with some accuracy. Children can evaluate final products and discuss them.
Vocabulary	mechanism, lever, linkage, input, process, output,	marking out, scoring, shaping, stiff, strong, design criteria, innovative, prototype	texture, taste, appearance, knead, prove, smell, savoury, hygienic, bake, yeast, ingredients
Links to prior knowledge	Explored and used mechanisms such as flaps, sliders and levers. Gained experience of basic cutting, joining and finishing techniques with paper and card.	Experience of using different joining, cutting and finishing techniques with paper and card. A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.	Know some ways to prepare ingredients safely and hygienically. Have some basic knowledge and understanding about healthy eating and the eatwell plate. Have used some equipment and utensils and prepared and combined ingredients to make a product.

Cross-curricular links	Mathematics – use the vocabulary of position, direction and movement. Use a ruler to measure to the nearest cm, half cm or mm. Art and design – use colour, pattern, line, shape. Computing – digital graphics and text could be incorporated into final products as the background or moving parts Spoken language – ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.	Science – discuss the properties and suitability of materials for particular purposes. Mathematics – compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them. Mathematics – use a ruler to measure to the nearest cm, half cm or mm. Draw 2-D shapes and make 3-D shapes using modelling materials. Computing – design and create digital content on screen, creating nets for their products and combining text with graphicsArt and design – use and develop drawing skills. Design and create digital content on screen using computer-aided design (CAD) software, creating nets for their products and combining graphics with text. Writing – write for real purposes and audiences.	Science –using and developing skills of observing and questioning. Humans get nutrition from what they eat. Discuss changes of state if heat is used. Mathematics –mass kg/g. Art and Design–using and developing drawing skills. Spoken language–developing relevant vocabulary e.g. sensory descriptors. Ask relevant questions to extend their knowledge. Writing – write a recipe
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