Crawley Ridge Junior School Skills Progression
Design and Technology

By the end of Key Stage 2 pupils, through a variety of creative and practical activities, will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open the door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordable and well, now and in later life.
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.

	Year 2 – Prior learning	Year 3	Year 4	Year 5	Year 6
Themes	**Mechanisms** • Explore simple mechanisms, such as sliders and levers, and simple structures. • Learn how materials can be joined to allow movement. • Join and combine materials using simple tools and techniques.	Structures – (Forest Schools) to make an Iron Age Roundhouse using natural materials in the school grounds **Mechanisms: Pneumatic monsters** Textiles – Design and make a cushion. Food: Eating seasonally	Structures: Safari buggies Electrical: Develop a new functional torch design. Textiles: Design and create a book sleeve Food: Adapting a recipe	Structures: Design and create a wooden bridge. **Mechanisms: Pop up books using levers and sliders** Textiles: Design and make a posy bag Food technology: Seasonality -Excellent small cake and pottage Forest Schools Weaving – wattle and daub	Structures: To design and construct an Air raid shelter Electrical: Design and develop a steady hand game. Food: Celebrating culture and seasonality. Forest schools: Wartime recipes Digital world: Navigating the world
Design - Mechanisms (Understanding contexts, users and purposes, Generating, developing, modelling and communicating ideas)	• Generate ideas based on simple design criteria and their own experiences • Develop, model and communicate their ideas through drawings and mock-ups with card and paper.	• Designing a moving creature which uses a pneumatic system • Developing design criteria from a design brief • Generating ideas using thumbnail sketches and exploded diagrams • Learning that different types of drawings are used in design to explain ideas clearly.		• Designing a pop-up book which uses a mixture of structures and mechanisms • Naming each mechanism, input and output accurately • Storyboarding ideas for a book	

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Make – Mechanisms (Construction) (Planning, practical skills and techniques)	• Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating.	• Creating a pneumatic system to create a desired motion • Building secure housing for a pneumatic system • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy • Selecting materials due to their functional and aesthetic characteristics • Manipulating materials to create different effects by cutting, creasing, folding, weaving.		• Following a design brief to make a pop up book, neatly and with focus on accuracy • Making mechanisms and/or structures using sliders, pivots and folds to produce movement • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.	
Evaluation - Mechanisms	• Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	• Using the views of others to improve designs • Testing and modifying the outcome, suggesting improvements • Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.		• Evaluating the work of others and receiving feedback on own work • Suggesting points for improvement	
Mechanisms - Technical Knowledge	•Understand that different mechanisms produce different types of movement.	• Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movement.		• Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement • Describing mechanisms that can be used to change one kind of motion into another.	

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