Years 3 and 4

Aspects	2023-2024			2024-2025		
Term	Autumn	Spring	Summer	Autumn	Spring	Summer
Unit	Constructing a castle	Pneumatic monsters	Eating seasonally	Cross stitch and applique cushions	Biscuits	Electric posters
Aspect	Structures	Mechanisms	Food and nutrition	Materials	Food and Nutrition	Electrical systems
Outcomes	Children can identify and learn about key features of a castle before designing and constructing their own castle a range of 3D geometric shapes using nets.	The children will explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.	Children can explain that fruits and vegetables grow in different countries based on their climates. They can understand that 'seasonal' fruits and vegetables are those that grow in a given season and taste best then.	Children can learn and apply two new stitching techniques – cross stitch and applique. They can utilise these new skills to design and make a cushion	The children will work in groups to adapt an existing biscuit recipe, whilst considering the cost of the ingredients and other expenses against a set budget.	The children will be introduced to various forms of 'Information design' before being briefed to develop an electric museum display based on the Romans.
Sequence of learning	**Design:** I can recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure.	**Design:** I understand how pneumatic systems works.	**Design:** I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**Design:** I can research the design of innovative, functional appealing cushions that are fit for purpose, aimed at particular individuals or groups.	**Design:** I can evaluate existing products to gather ideas for my own design.	**Design:** I can explain the purpose of information design.
	Design: I can draw the design of my castle using 2D shapes and label the 3D shapes that will create the features.	**Design:** I can design a toy that uses a pneumatic system by making thumbnail sketches and exploded diagrams	**Finger fluency** I can follow a recipe to make a seasonal dish and evaluate the flavour combinations.	**Finger fluency:** I can learn how to sew cross-stitch and appliqué.	**Design:** I can follow a simple biscuit recipe	**Design:** I can research a set topic to develop a range of initial ideas.
	Finger fluency: I can construct a range of 3D geometric shapes using a net.	**Design:** I can create a pneumatic system to create a desired motion.	**Design:** I can design a puff pastry tart using seasonal vegetables and fruits.	**Design:** I can create my design with annotated sketches, cross-sectional and exploded diagrams.	**Design:** I can make and test prototypes to consider the best flavour combinations.	**Design:** I can sketch initial ideas for my electric poster that meet my design criteria.
	Make: I can construct my castle to meet the requirements of my brief and adorn my castle with facades and other decorative features.	**Make:** I can select appropriate tools and equipment to accurately create my product.	**Make:** I can safely follow my recipe to make a puff pastry tart.	**Make:** I can select appropriate materials according to the functional properties and aesthetic qualities. I can use appliqué and cross stitches.	**Design:** I can design a biscuit to a given budget.	**Design:** I can develop an initial idea into a final design.
	Evaluate: I can evaluate my ideas and products against design criteria.	**Evaluate:** I can evaluate my ideas and products against my design criteria and consider the views of others to improve my work.	**Evaluate:** I can evaluate my design against my design criteria.	**Make:** I can select appropriate tools and equipment to accurately assemble my product.	**The biscuit Bake Off!** **Make:** I can make a biscuit that meets the design brief. I can make suitable packaging for my product.	**Make:** I can assemble my final product and incorporate a simple circuit.
	castle net structure design 2d / 3d scoring tab stable stiff strong	mechanism lever pivot linkage system pneumatic system input / output component thumbnail sketch adapt properties reinforce motion	climate diet imported ingredients natural processed reared recipe seasonal seasons sugar	**Evaluate:** I can evaluate my ideas and products against design criteria and consider the views of others to improve my work.	**Evaluate:** I can evaluate my ideas and products against design criteria and consider the views of others to improve my work	**Evaluate:** I can evaluate my windmill according to the design criteria and consider the views of others to improve my work.
				applique cross stitch running stitch thread seam fabric, patch, texture, knot	design criteria , research innovative texture, aesthetic measure cross-contamination diet, processed packaging	circuit battery bulb electrical system circuit component crocodile wires electric product