Curriculum Map: **Art & DT** **Year 5**

KS2 DT Curriculum NC End Points:

Designing

- Can 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.
- Is able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Making:

- Is able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing],
- Can 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.

Evaluating:

- Is able to investigate and analyse a range of existing products.
- Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- Understands how key events and individuals in design and technology have helped shape the world.

Technical Knowledge:

- Applies their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].
- Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].
- Applies their understanding of computing to program, monitor and control their products.

Food technology:

- Understand and can apply the principles of a healthy and varied diet.
- Can 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

Term	Learning Focus		Cross Curricular links
	Knowledge	**Skills**	
Autumn 2	**Textiles** *Jane Morris – textiles. 1839 – 1914* **(Puppets)** • To know how to specify a design to make it more appealing to a specific target group. • To know different types of stitches for the purpose of functionality and aesthetics. • To explain how to join materials in different ways. • Know and use technical vocabulary relevant to the project. • Evaluate ideas and finished product against specification, considering purpose and appearance	• Design the main stages and list them (in order) when making a puppet • Use research into the features of an appealing functional bookmark to inform design criteria • Evaluate existing products, considering: how well they've been made • Select and use a range of tools to perform practical tasks • Explain choices for tools in relation to the required techniques and use them accurately • Measure, mark out, cut, shape and assemble materials/components with some accuracy, applying a range of finishing techniques • Investigate the effect of different stitches in joining seams and how they contribute to the overall effectiveness and durability of the product. • Refer to design criteria while designing and making • Evaluate the outcome with reference to the design criteria	**Science**

Spring	**Cooking & nutrition - Herby-veggie Crumble** • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed • Understand and can apply the principles of a healthy and varied diet • Understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate. • Combine range of food preparation and cooking techniques such as peeling, chopping, slicing, grating, mixing, and stirring. • Know hygiene measures before and during preparation of food • Write their own design criteria identifying needs, wants, preferences and values of particular individuals and groups. • Explore and design an 'on the go lunch during a school trip' using digital sources i.e. internet, word processing software • Use feedback from others to help evaluate how well the lunch achieved its purposes and met the user's needs and wants. • Begin to evaluate how much products cost to make	• Know what the words reared, caught and processed mean. • Name some foods that are reared, caught and processed and can say where some of these foods come from. • Explain that reared and caught foods are also seasonal. • Find out about the needs and wants of particular individuals and groups and account for these in my design • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. • Can prepare and cook a savoury dish using a range of cooking techniques • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	**Science: Healthy Diet/hygiene**
Summer 1	**Structures – Bird Hides** To relate the way things work to their intended purpose • Understand that there are many different types of bird hides built for a variety of purposes • Know how structures can fail when loaded, and techniques for reinforcing and strengthening them • Recognise that under certain circumstances structures can fail when loaded • Produce annotated sketches, cross-sectional drawings and to help me develop and improve my ideas • To develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if first attempts fail • To evaluate their products, identifying strengths and areas for development, and carrying out appropriate	• Complete thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose • To join and combine materials and components accurately in temporary and permanent ways • Produce several clear design ideas, including step-by-step lists of what needs to be done and lists of resources to be used • Make suggestions for alternative methods of construction if necessary • Begin to reinforce and strengthen a 3D frame • Make suggestions for alternative methods of construction if necessary	

	tests • Plan, create, follow, adapt detailed step-by-step plans and evaluate any changes to improve quality • Have a secure understanding of how to strengthen, stiffen and reinforce more complex structures. • Explain how a product meets design criteria and is fit for purpose • To evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests • Explain how a product meets design criteria and is fit for purpose.	• Can accurately measure, mark out, cut, shape and assemble materials / components, applying a range of finishing techniques • Evaluate their own and other children's bird hides identifying what is and what is not working, including appearance • Research and discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products, considering their impact beyond their intended purpose and discuss how sustainable materials are.	

Ambition / Intent:
At Camrose Primary School, we believe that Design Technology is essential to a rich and balanced education that develops the whole child. The study of Design Technology gives children an insight into how the world is being shaped around them for the evolving needs of people and communities from past to present. In a rapidly changing age of technology, it is essential that children are equipped with the knowledge and technical skills to creatively solve real life problems, so that they have the ability to make their own impact on the world around them.

Design / Implementation:
The National Curriculum provides the structure and skill development for the Design & Technology curriculum being taught throughout the school. At Camrose, we are dedicated to the teaching and delivery of a high-quality Design and Technology curriculum through well planned and resourced projects and experiences.

We have determined that Design Technology will taught in two or three units across the school year. During Design and Technology units, our children draw upon subject knowledge and skills within Mathematics, Science, History, Computing and Art. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world.

Impact:
At Camrose, we ensure all of our pupils are able to approach problems creatively and in a range of ways. By providing a range of contexts and the necessary skills, we endeavour to support pupils in their future educational journey and in the understanding of the ever-developing world around them.

The skills and attributes they develop will benefit them beyond school and into adulthood: the ability to use time efficiently, work with others productively, show initiative, independence, resilience and manage risks effectively will ensure well-rounded citizens who will make a difference in the wider world.