



Achievement Cycle Overview

Curriculum: Design & Technology

**Excellence.
No Excuses.**

Year	AC1 – Resistant Materials	AC2 – Resistant Materials	AC3 - Textiles	AC4 - Food
9	<p>Topic Overview RM Production systems focus: CAD/CAM, Product sustainability and Social Issues Context: Iterative design through sustainable packaging solutions Design Brief: Design and make a solution using CAD/CAM in which a products packaging can be turned into a high quality reusable product.</p> <p>NC links: Design: Identify and solve their own design problems and understand how to reformulate problems given to them. Make: : select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture Evaluate: Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists. Technical knowledge: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p> <p>GCSE Links:</p> <ul style="list-style-type: none"> • Production systems – CAD/CAM • Product Sustainability • Social Issues • Properties of materials • Forces and stresses • Properties of paper and board • Working with paper and board • Printing techniques • Paper and board finishes • Developing prototypes 	<p>Topic Overview RM Processes focus: templates/formers/jigs Context: Scales of Production Design Brief: Design and make a container using production aids to demonstrate how processes can be repeated to batch produce products.</p> <p>NC links: Design: Develop and communicate design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer based tools. Make: Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties. Evaluate: Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists. Technical knowledge:: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p> <p>GCSE Links:</p> <ul style="list-style-type: none"> • Properties of materials • Manufactured boards • Scales of production • Stock forms and standard components • Shaping materials • Moulding and joining • Shaping techniques • Production aids 	<p>Topic Overview: Textiles Materials focus: Textiles Context: Understanding User Needs Design Brief: Design and make a Tool roll for a specific target group.</p> <p>NC links: Design: identify and solve their own design problems and understand how to reformulate problems given to them Make: select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture Evaluate: test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups Technical knowledge: understand and use the properties of materials and the performance of materials and components to achieve functioning solutions</p> <p>GCSE Links:</p> <ul style="list-style-type: none"> •Properties of materials •Production of materials •Understanding user needs •Exploring and developing a design idea •Working safely •Production aids •Shaping techniques •Printing methods •Standard components including types of fastenings •Quality Control 	<p>Topic Overview: Topic: Nutrition and special dietary needs Covering: relationships and dietary needs of different groups of people; energy balance, and micro- and macro-nutrients.</p> <p>NC links: Principles of nutrition and health: understanding the impact food has on health; applying their knowledge of allergens and food choices to individuals are consuming a balance diet. Healthy and varied diets: Understanding the different dietary need through the life cycle. Understanding how to adapt recipes to be suitable to individuals food choices. Cooking techniques: Adapting recipes, Knife skills, applying heat in different ways. Understanding ingredients: Understanding the function of micro and macro-nutrients in the products</p> <p>GCSE Links: Nutrition: understanding different dietary needs, energy balance, impact of micro and macro-nutrients within the body. Food (Food Provenance and Food Choice): fortification, food security; development of culinary traditions; and factors influencing food choices. Cooking and food preparation: Food safety principles – labelling and date marking, sensory and nutritional properties. Skill required (preparation and cooking techniques): Adapting recipes, Knife skills, applying heat in different</p>