Cheadle Primary – the school at the heart of the village, free to flourish, ready to learn and succeed. **Progression of Skills and Knowledge: DESIGN TECHNOLOGY Year 6**

	Autumn 1	Autumn 2	Spring 1	Spring 2/Summer 1	Summer 1 and 2
Topic	**World War Two**		**Mountains**	**South America-Brazil**	**Britain Since 1066-Focus on Battles**
National Curriculum Learning Intentions	Design - 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; • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Make - select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately; • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluate - investigate and analyse a range of existing products; • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work; • understand how key events and individuals in design and technology have helped shape the world Technical Knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures; • understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]; • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]; • apply their understanding of computing to program, monitor and control their products. Cooking and Nutrition - 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.				
DT Units	Super Seasonal Cooking Rationing		Automate Animals /Printing Block		Felt Phone CasesFelt Bayeux tapestry
Design	• carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups• generate innovative ideas, drawing on research Design circuits incorporating buzzers, switches, bulbs and motors		• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • explain how particular parts of their products work • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas		• describe the purpose of their products • indicate the design features of their products that will appeal to intended users • share and clarify ideas through discussion • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • make design decisions, taking account of constraints such as time, resources and cost develop a simple design specification to guide their thinking
Make	• follow procedures for safety and hygiene • formulate step-by-step plans as a guide to making Circuits using buzzers , bulbs, motors, switches (SCIENCE)		• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities • produce appropriate lists of tools, equipment and materials that they need • accurately assemble, join and combine materials and components • use techniques that involve a number of steps • accurately measure, mark out, cut and shape materials and components (ART) • accurately apply a range of finishing techniques, including those from art and design (ART)		• demonstrate resourcefulness when tackling practical problems • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • accurately measure, mark out, cut and shape materials and components • accurately apply a range of finishing techniques, including those from art and design
Evaluate	• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products (HISTORY)		• identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • how well products have been designed and made • why materials have been chosen • what methods of construction have been used • how well products work and how well products achieve their purposes • how well products meet user needs and wants • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose		• identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • how well products have been designed and made • why materials have been chosen • what methods of construction have been used • how well products work and how well products achieve their purposes • how well products meet user needs and wants • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
Technical Knowledge	• that a recipe can be adapted by adding or substituting one or more ingredients and how this was necessary during the WW2• how more complex electrical circuits and components can be used to create functional products		how mechanical systems such as cams or pulleys or gears create movement • how to reinforce and strengthen a 3D framework • how to use learning from mathematics to help design and make products that work • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking		• that a 3D textiles product can be made from a combination of fabric shapes • that materials have both functional properties and aesthetic qualities • how to use learning from science to help design and make products that work
Cooking and Nutrition	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking that recipes can be adapted to change the appearance, taste, texture and aroma and based on the availability of ingredients • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking		• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – needed for health • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking	
Key Skills	Understand what seasonality means. • Name some foods which are grown, reared, caught and processed. • Design simple seasonal recipes. • Prepare a range of ingredients hygienically. • Prepare, assemble/cook ingredients. Know when different fruit and vegetables are in season in the United Kingdom. • Explain where and how a variety of ingredients are grown, reared, caught and processed. • Generate ygia range of ideas for balanced seasonal recipes. • Prepare ingredients technically and understand how to store and handle meat and fish correctly. • Use a wide range of preparation and cooking technique		• Generate, as a group, one viable idea after discussion with the teacher. • Cut materials accurately and safely by selecting appropriate tools. • Assemble a simple cam mechanism as part of the design. • Use tools with some accuracy and finish their automata animal in a design that they have prepared with some assistance. • Use design criteria to evaluate what they did well on their product. Use research to develop design criteria. • Use their knowledge of the animal and movement made by the cam in the design of their automaton. • Measure, mark out and cut materials accurately and safely to the nearest cm using a wider range of tools and equipment. • Work mainly independently to make a mechanical device, selecting materials to make a framework, handle, cam mechanism and finishing the device. • Use peer feedback and design criteria to help guide the evaluation process.		• Develop their own design criteria. • Use backstitch. • Create simple patterns.Aim the design criteria at a target market. • Use at least two different types of stitches. • Create an accurate paper template. • Measure and mark a sewing and cutting line.

Learning Intentions	To explain what seasonality means and know when different fruit and vegetables are in season in the United Kingdom and compare with other countries To explain where, when and how a variety of ingredients are reared, caught and processed. To taste and evaluate seasonal foods and recognise that sometimes we need to try a new food a few times to find out if we like it. To explain the importance of protein as a proportion of a healthy varied diet. To work as a group to generate, evaluate and refine recipe ideas. To take feedback and improve my designs. To explain how to correctly store and handle meat and fish. To prepare, cook and evaluate a healthy seasonal meal.	t.To research ideas about different animals to inform my design. To explain how simple cam mechanisms work. To research ideas about different animals to inform my design. To select materials according to their functional properties. To use research and develop design criteria to inform my design. To build a framework, accurately using a wider range of tools and equipment. To evaluate my product. To understand and use a mechanical system.	To write a design criteria for a mobile phone case. To generate a range of design ideas and clearly communicate my final design. To make a paper template. To practise using different types of stitches and choose the best one to use on my final felt phone case. To organise my ideas in a step by step plan. To select decorative techniques and fastenings according to their functional properties and aesthetic qualities. To evaluate my product
Resources	Camera, A selection of fruit and vegetables from different seasons. Asparagus, kale, spinach, radishes, rocket, Jersey Royal new potatoes and spring onions, salmon, prawns and lentils, chopping boards. Kitchen equipment.	Dowel, corrugated plastic, card, foam, cotton reels, pin, hammer, vices, bench hooks, hacksaw, split pins, double sided tape, plastic tubing	Felt, egs of mobile phone cases,1 cm squared paper, scissors, rulers, sharp pencils, fabric shears, needles, threads, rectangles of scrap fabric, egs of fastenings: hook and eye, press studs, buttons, ribbon, Velcro, press studs, buttons, ribbon, felt, fabric glue. selection of different fabrics and materials for decorating.
Vocabulary	Seasonality, spring, summer, autumn, winter, imported, ripe, sustainable.Seasonal, reared, caught, processed. texture, Balanced, protein, eatwell plate. Design criteria, specification, annotated diagram, generate, refine.Blanch, fry, grill, griddle, chop, slice, peel, grate	Endangered, vulnerable, appearance, habitat, research, design brief. Cam, follower, components, mechanical systems, rotary, linear, convert, motion. guide, follower, mechanism, components, mechanical systems, rotary, linear, convert, movement, dwell, snail, egg shaped, eccentric, ellipse, hexagon, round, off centre, components, framework, construction, finish, join, cut, saw, square section wood, hacksaw, vice, corner joints, measure, accurately, smooth, finish, notch. aesthetic, components, mount, framework, finish, join, cut, saw, prototype, evaluate, peer, feedback, off centre, axle, shaft.	.Design criteria, aesthetics, functional, specification. Innovative, annotate, design process. Pattern, template, precisely, accurately, scale, measurements, millimetre, centimetre. Prototype, whipstitch, backstitch, running stitch, blanket stitch. Plan, Fastenings, decoration, felt, design criteria, evaluate.