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 4**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	**Ancient Greece**	**Digestive System**	**Roman Empire**	**The Environment**	**UK Study Blackpool**	**UK Study Stockport**
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	**Juggling Balls**		**The Great Bread Bake off**		**Battery Operated Lights**	
Technical Knowledge	• how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • 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 food ingredients can be fresh, pre-cooked and processed		• how simple electrical circuits and components can be used to create functional products • how to program a computer to control their products	
Cooking and Nutrition			• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source			
Key Skills	Analyse and test a range of existing products. Develop a design aimed at particular individuals or groups. Explain why different fabric decoration techniques have been chosen. With some independence, use a running stitch and an overcast stitch explaining why these methods are suitable for the task.		Use their experience of food ingredients and cooking methods to help generate ideas. Explain why they have chosen certain foods and processes and link them their design criteria. Produce an order of work which includes an annotated diagram and chosen equipment appropriately. Make and evaluate their bread product against objective design criteria.		Name some key events and individuals that have helped shape the world of lighting. Explore and make a series and parallel circuit, diagnosing faults when necessary, and follow instructions to make a selection of different switches. Draw a design which uses annotations to add some detail. Develop design criteria to inform the design of innovative products considering the purpose and target group / individual. Make a well-finished product considering aesthetic and functional qualities. Use design criteria to help to develop their own questions and use the answers to help to guide the evaluation process.	
Learning Intentions	I can investigate and evaluate juggling balls. I can follow a design criteria to help me create and communicate my ideas. I can perform tie-dye as a technique for decorating my fabric. I can research and trial different fillings for my juggling ball and decide upon the most functional one. I can cut around a template and use a running stitch to create a hem. I can use a functional technique to carefully decorate my fabric. I can join my juggling ball using an appropriate stitch to create my finished shape. I can evaluate my product.		To find out about important people and events in the past that have shaped the way bread is made and sold today. To investigate and analyse existing products according to their characteristics. To develop a design criteria. To knead, shape and bake dough. To think of original ideas for a product based on my design criteria. To develop designs based on my design criteria and clearly communicate my final design. To select ingredients and kitchen equipment to help me follow a bread making recipe.		To explain how key events and individuals in design technology have shaped the world. To make and represent different types of circuits. To make and use switches, To develop a design and design criteria. To develop and communicate a design for my light. To select materials and components to make my light. To create a well-finished product. To complete a detailed evaluation of my finished product.	
Resources	Egs of juggling balls, selection of different coloured dyes, elastic bands/hair bobbles /string, pipettes/squirting bottles Sealable sandwich bags, tie-dye kit. dried beans, lentils, rice and sand, sewing equipment, corrugated card,		Different types of Warburtons bread: Milk Roll, Toastie, Seeded Batch, Fruit Loaf with Orange. Salt dough.		Bulbs, bulb holders, batteries, battery holders, Insulated wire with crocodile clips, materials for Switches (foil, coins, wires , bulbs, split pins, paper clips, plastic, cardboard, scissors, pegs, ball bearings, egs of different types of lights.	

Vocabulary	Explore, textiles, evaluate, interpret, product, analysis, star profile, user, and design, brief,design criteria, annotate. tie-dye, technique, cut, shape, functional, hem, template, stitch, shape, join, overcast stitch, aesthetic, evaluate, test.	Pioneer, design, brand, industry. product, market research. texture, appearance, flavour, market research, design criteria, shape, knot, yeast, knead, dough, rise.	STEM, science, design and technology, engineering, mathematics, chronological, events, individuals, changing, inventors. mains, battery, operated, energy, electricity, conductor, insulator, connect, series, fault, parallel, circuit, components, symbol, electrical systems, design brief. path, current, switch, turn switch, micro switch, connect, functional, aesthetic, finished, quality, assemble, evaluate, specification, design criteria.