*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 3**

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| **Topic** | **Stone Age** | **Volcanoes** | **Ancient and Modern China** | **Shakespeare** | **Ancient Egypt** | **UK Study** |
| **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.<br>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.<br>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<br>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]; monitor and control their products.<br>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** | **MECHANICAL POSTERS** | | **EDIBLE GARDEN** | | **LET'S GO FLY A KITE** | |
| **Technical Knowledge** | how mechanical systems such as levers and linkages or pneumatic systems create movement<br>to use learning from science to help design & make products that work<br>that materials have both functional properties and aesthetic qualities<br>that materials can be combined and mixed to create more useful characteristics that mechanical systems have an input, process and output<br>the correct technical vocabulary for the projects they are undertaking | | that food ingredients can be fresh, pre-cooked and processed | | how to make strong, stiff shell structures<br>that a single fabric shape can be used to make a 3D textiles product<br>how to use learning from mathematics to help design and make products that work | |
| **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<br>that to be active and healthy, food and drink are needed to provide energy for the body<br>how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking<br>that food is grown (eg tomatoes, wheat, potatoes), reared (eg pigs) | | | |
| **Key Skills** | Explore how mechanical systems work.<br>Draw a design which uses annotations to add some detail.<br>Develop design criteria to inform the design of innovative products aimed at a particular audience.<br>Make a prototype and well-finished poster which aims to have two lever/linkage mechanisms.<br>Use design criteria to help guide the evaluation process. | | Understand the correct proportions for a balanced meal.<br>Be able to plant and care for a variety of ingredients so that yield produce.<br>Measure ingredients to the nearest millilitre and assemble or cook ingredients. | | Explain how a small event led to a larger significant event in Design Technology which helped to shape the world.<br>Use research to create ideas and refine them to develop design criteria.<br>Build and join strong frame structures and stiffen materials.<br>Apply understanding of where and how kites need stiffening. | |
| **Learning Intentions** | To investigate mechanical systems.<br>To make mechanical systems which use levers and linkages.<br>To use sketches to develop and communicate ideas.<br>To develop design criteria to help me design an innovative product.<br>To use prototypes to develop my ideas.<br>To evaluate my poster.<br>To name the parts and functions of a lever and linkage mechanical system. | | To name some herbs and know how to grow them.<br>To explain what makes a diet healthy and varied and can cook a healthy balanced meal.<br>To explain where, when and how strawberries are grown in the United Kingdom.<br>To use kitchen tools correctly to prepare and make a tasty & nutritious drink.<br>To explain when tomatoes are in season in the United Kingdom and can say where and how they are grown.<br>To prepare and cook/assemble a healthy and tasty meal using tomatoes as my main ingredient. | | To explain how key events and individuals in design and technology have helped shape the world.<br>To communicate my existing understanding about kites.<br>To name and explain the function of the different parts of a kite.<br>To select from and use different materials and components.<br>To investigate kite shapes.<br>To develop and communicate a design for my kite.<br>To accurately measure and cut the shape of the body of the kite and join it to the frame structure.<br>To make a strong and stiff frame structure to support the kite. | |
| **Vocabulary** | Design brief, recycle, mechanism, mechanical system, moving, lever, linkage, design brief, pivot, input, output, loose/fixed pivot, guide/bridge, system, input, output. prototype, mock-up, high-quality, finish, techniques, components, replicate. | | Polytunnels, glass houses, seeds, plants, calyx, pollinate, seasonality, boil, simmer, seasoning, bruschetta, grate, chop, heat source, hob. | | Parts, function, bridle, line, tow point, keel, sail, spars, tail, kite, shape, delta, diamond, rokkaku, sled. | |
| **Resources** | Examples of mechanisms teaching aids (use the Making Levers and Linkages, examples of objects made from recycled materials, paper/ card, coloured pens/pencils, magazines/ newspapers, glue, split pins, scissors, modelling clay, rulers, sticky tape/ masking tape/ sticky pads | | Containers, herbs in pots/seeds. Soil, trowels, gloves, garlic crusher, pestle and mortar, measuring spoons, ramekin bowls, chopping board, safe knives, pans, garlic, fresh basil, parmesan cheese, pine nuts, extra virgin olive oil, lemon ,whole wheat pasta, varieties of tomatoes for tasting, tomato seeds. | | Kite making materials (e.g. newspaper, tissue paper, dustbin liners, plastic bags wrapping paper and wallpaper, card, wooden skewers, ribbon, kite string, sticky tape, pencils, scissors, rulers, hole punch) large rulers or tape measures. | |