**DESIGN and TECHNOLOGY at West Kidlington Primary School and Nursery 2023-2024: Curriculum Progression**

|  |  |  |  |
| --- | --- | --- | --- |
| dt – ClassClub.co | **Year 1/2** | **Year 3/4** | **Year 5/6** |
| **Cooking and Nutrition** | • Cut ingredients safely and hygienically.• Assemble or cook ingredients.• Cut, peel or grate ingredients safely and hygienically.• Measure or weigh using measuring cups or electronic scales. | • Prepare ingredients hygienically using appropriate utensils.• Measure accurately.• Follow a recipe.• Assemble or cook ingredients.• Prepare ingredients hygienically using appropriate utensils.• Measure ingredients to the nearest gram.• Assemble and cook ingredients (controlling the temperature of the oven or hob if cooking). | • Understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms).• Demonstrate a range of baking and cooking techniques.• Measure accurately and calculate ratios of ingredients to scale up or down from recipe.• Create and refine recipes, including ingredients, methods, cooking times and temperatures.  |
| **Materials** | • Cut materials safely using tools provided.• Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding, and curling). • Measure and mark out to nearest cm.• Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). | • Cut materials accurately and safely by selecting appropriate tools.• Select appropriate joining techniques. • Measure and mark out to the nearest mm.• Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). | • Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). |
| **Textiles (link to Art)** | • Shape textiles using templates.• Colour and decorate textiles. • Join textiles using running stitch.• Colour and decorate textiles using a number of techniques. | • Understand the need for a seam allowance.• Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. | • Create objects (such as a cushion) that employ a seam allowance.• Join textiles with a combination of stitching techniques (e.g. back stitch for seams and running stitch to attach decoration).  • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). |
| **Electricals and Electronics (link to science)**  | • Recognise if a battery-operated device works or not. • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). | • Create series circuits. • Create parallel circuits. | • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). • Create circuits using electronics kits that employ a number of components with increasing confidence. |
| **Construction** | • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. | • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. | • Develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding). • Develop a range of practical skills to create products. |
| **Mechanics**  | • Create products using levers and wheels. • Create products using winding mechanisms. | • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). • Use scientific knowledge to choose appropriate mechanisms for a product. | • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs |
| **Computing**  | • Model designs using software. | • Control and monitor models using software designed for this purpose. • Control and monitor models using software designed for this purpose. | • Write code to control and monitor models or products. • Write code to control and monitor models or products. |
| **Taking Inspiration from Design Throughout History.** | • Explore objects and designs to identify likes and dislikes of the designs.• Suggest improvements to existing designs. • Explore objects and designs to identify likes and dislikes of the designs.• Suggest improvements to existing designs.• Explore how products have been created. | • Identify some of the great designers in all of the areas of study to generate ideas for designs.• Improve upon existing designs, giving reasons for choices.• Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.• Disassemble products to understand how they work. | • Combine elements of design from a range of inspirational designers throughout history.• Create innovative designs that improve upon existing products.• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.• Evaluate the design of products to suggest improvements to the user experience.  |
| **Design, Make,** **Evaluate and Improve** | • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses.• Use software to design. | • Design with purpose by identifying opportunities to design.• Make products by working efficiently (such as by carefully selecting materials).• Refine work and techniques as work progresses, evaluating the end product design. • Design with purpose by identifying opportunities to design.• Make products by working efficiently • Refine work and techniques as work progresses, continually evaluating the product design.• Use software to design and represent product designs. | • Design with the user in mind, motivated by the service a product will offer.• Make products through stages of prototypes, making continual refinements.• Ensure products have a high quality finish, using art skills where appropriate. • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).• Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.  |
| **EYFS** | • Use large-muscle movements to wave flags and streamers, paint and make marks.• Choose the right resources to carry out their own plan.• Use one-handed tools and equipment, for example, making snips in paper with scissors.• Develop their small motor skills so that they can use a range of tools competently, safely andconfidently.• Use a range of small tools, including scissors, paintbrushes and cutlery. | • Explore how things work.• Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park.• Explore different materials freely, in order to develop their ideas about how to use them and what to make.• Develop their own ideas and then decide which materials to use to express them.• Create closed shapes with continuous lines, and begin to use these shapes to represent objects. | • Explore, use and refine a variety of artistic effects to express their ideas and feelings.• Return to and build on their previous learning, refining ideas and developing their ability to represent them.• Create collaboratively, sharing ideas, resources and skills.• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.• Share their creations, explaining the process they have used. |