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| Objective |  | Key Skills | What we will learn | | Key concepts |
| Key Knowledge | Key vocabulary |
| **To master practical skills: making** | Food | • Prepare ingredients hygienically using appropriate utensils.  • Measure ingredients to the nearest gram accurately.  • Follow a recipe.  • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). | **Know:**  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.  That food ingredients can be fresh, pre-cooked and processed  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 a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Guide  That to be active and healthy, food and drink are needed to provide energy for the body | peeling, chopping, slicing, grating, mixing, spreading, kneading and baking, mould (verb)  Hob, oven, toaster, microwave | Hygiene  Healthy eating  Measurement  Accuracy |
| Materials | • Cut materials accurately and safely by selecting appropriate tools.  • Measure and mark out to the nearest millimetre.  • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).  • Select appropriate joining techniques. | **Know how to:**  Follow procedures for safety and hygiene  Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components  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.  Select materials and components suitable for the task.  Explain their choice of materials and components according to functional properties and aesthetic qualities  Order the main stages of making.  Measure, mark out, cut and shape materials and components with some accuracy.  Assemble, join and combine materials and components with some accuracy  Apply a range of finishing techniques, including those from art and design, with some accuracy.  That materials can be combined and mixed to create more useful characteristics. | Procedure  Shape  Joins | Measurement  Accuracy |
| Textiles | • Understand the need for a seam allowance.  • Join textiles with appropriate stitching.  • Select the most appropriate techniques to decorate textiles. | Seam, pin and tack  Stiches: running stitch, over sewing or glue,  Applique: buttons, sequins, beads, ribbons  Pattern | Combination  Technique |
| Electricals and electronics | • Create series and parallel circuits | Parallel circuit | Electric Current |
| Computing | • Control and monitor models using software designed for this purpose. | Remote control  robotic | Control |
| Construction | • Choose suitable techniques to construct products or to repair items.  • Strengthen materials using suitable techniques. | Strengthen/brace  /fortify/support  Bond | Support  Improve |
| Mechanics | • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). | levers, winding mechanisms, pulleys and gears | Force  Mechanism |
| **To design, make, evaluate and improve** |  | • 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, continually evaluating the product design.  • Use software to design and represent product designs. | **Know how to:**  Describe the purpose of their products.  Indicate the design features of their products that will appeal to intended users.  Explain how particular parts of their products work  Gather information about the needs and wants of particular individuals and groups.  Develop their own design criteria and use these to inform their ideas, focusing on the needs of the user and make design decisions that take account of the availability of resources.  refer to their design criteria as they design and make  Use their design criteria to evaluate their completed products and refer to their design criteria as they design and make. | Efficiency  Effective  Refine  Select  Software  Design criteria | Improve  Consolidate  Refine  Design |
| **To take inspiration from design throughout history and analyse existing products** |  | • 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.  • Disassemble products to understand how they work. | Link this to history/geography topics  Investigate and analyse:  How well products have been designed  How well products have been made  Why materials have been chosen  What methods of construction have been used  How well products work  How well products achieve their purposes  How well products meet user needs and wants  Who designed and made the products  Where products were designed and made  When products were designed and made  Whether products can be recycled or reused | Analysis  Investigation  Pioneer  Generate  Disassemble  User | Analysis  Investigation  Purpose  Improve  Recycle  Reuse |