Year 5 – Design & Technology Progression Curriculum Documents

Prior Learning	In Year 5	Future learning:	Key Vocabulary
Exploring existing products: • can generate ideas by researching and using information. **Developing ideas:** • can use words, labelled sketches and models to communicate design ideas and step-by-step plans. **Making new products** • can construct simple electrical circuits and incorporate into a model • can join and combine materials to create mechanisms achieving movement • can construct a model incorporating a mechanism to achieve movement • can cut, shape and join materials with increasing accuracy using a range of techniques. **Evaluating** • I can evaluate my finished product, suggesting alternative techniques which could achieve improvements.	**Designing:** • **I**nvestigate, analyse and evaluate a range of existing products. • Create detailed plans when constructing my product. **Making:** • Measure, cut and shape a range of materials with increasing accuracy. I can assemble, join and combine components accurately. • Sew a button onto material, threading a needle independently. • Use pattern pieces and seam allowance to create a 3D product which includes decorative stitching. • Use a range of construction tools (eg hand-drill, hammer, hacksaw, bench-hook) safely and accurately. **Evaluating:** Evaluate finished products, suggesting alternative techniques which could achieve improvements, showing an awareness of fitness for purpose.	**Designing** • 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 **Making** • 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. **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	**Mechanisms** Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality. **Construction and textiles:** Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye. Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief. **Cooking:** Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in. **Electrical systems & Digital world** Parallel circuit, light emitting diode, monitor, flowchart, design specification, reed switch, tilt switch.

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		technology have helped shape the world	

Common Misconceptions: **Unaware of technical vocabulary** **Not having the skills to complete a task** **Inappropriate use of tools**	**Famous Designers:** Bridge architects of the world Robert O Peterson

Pedological Knowledge					
Cooking	**Mechanisms**	**Construction**	**Textiles**	**Evaluating processes and products**	**Working with tools**
Prepare food products taking into account the properties of ingredients and sensory characteristics Select and prepare foods for a particular purpose Taste a range of ingredients to develop a sensory food vocabulary and use when designing. Weigh and measure accurately using scales Join and combine food ingredients appropriately e.g. beating, rubbing in etc. Decorate appropriately. Understand and follow safe	Cut accurately and safely to a marked line. Join and combine materials with temporary, fixed or moving joins. Use craft knife, cutting mat and safety ruler under one to one supervision [if appropriate]. Choose an appropriate sheet material for the purpose.	Explore the sensory qualities of a wider range of materials and how to use appropriate materials and processes. Be aware of possible constraints Measure, mark out, cut and shape a range of materials, and assemble, join and combine components and materials with accurately Use appropriate skills for using finishing techniques and strengthen and improve the appearance of the	Create 3D products using pattern pieces and seam allowance Understand pattern layout Pin and tack fabric pieces together Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (close supervision). Decorate textiles appropriately often before joining components Make quality products	Reflect on the progress of their product as they work. Carry out appropriate tests before making any improvements. Recognise that the quality of the product depends on how well it is made and how well it meets its intended purpose. Recognise how well products meet social, economic and environmental considerations. Identify what does and does not work in the product. Make suggestions as how their	

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procedures for food safety		product using a range of equipment and tools including ICT Explore how mechanisms such as those introduced in years 3 and 4 can be used to make things move in different ways using a range of equipment including ICT. Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms. Understand, explain and follow safe procedures for using a range of tools.		design could be improved	
Key Questions **What instructions will you need to give the programming device to make it fit for purpose?** **What mechanisms allow the movement in the automata toys?** **How can we ensure stability in our structures?** **What stitch will you use?** **What decorative techniques may you use?**			**End of Unit Assessment:** **Navigating the world- digital** **Jack in a box- automata toys** **Bridge- structure** **Mayan clothing- textiles** **Steady hand game- electrical** **Cooking a meal- food**		