Curriculum Milestones- Design and Technology

LEVENS CE SCHOOL

Nursery	Development Matters Statements: Choose the right resources to carry out their own plan. Use one handed tools and equipment (e.g. making snips in paper with scissors). Join materials and explore different textures. 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, 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.
Reception	Develop fine motor skills so that they can use a range of tools competently, safely and confidently. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.

	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
National Curriculum Standards	**KS1 National Curriculum** Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **KS2 National Curriculum** 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	**KS1 National Curriculum** Select from and use a range of tools and equipment for ie cutting shaping, joining and finishing. Select from and use a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics. **KS2 National Curriculum** 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 qqualities.	**KS1 National Curriculum** Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. **KS2 National Curriculum** 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.	**KS1 National Curriculum** Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products. **KS2 National Curriculum** Apply their 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.	**KS1 National Curriculum** Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. **KS2 National Curriculum** 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.

By the end of Year 2	Identify user, purpose and simple design criteria Generate ideas through discussion and simple drawings, templates or mock-ups Take account of user preferences and requirements when designing Use knowledge of existing products and structures to inform designs	Select and use appropriate materials and tools for a purpose Demonstrate basic techniques of cutting, joining, shaping and puncturing holes Use simple finishing techniques to improve product appearance Follow instructions to assemble simple structures and mechanisms Begin to develop accuracy (e.g. even cutting, finding the centre). Prepare food using basic techniques (cutting, spreading, grating).	Explore and evaluate products by checking against simple design criteria Compare products and explain preferences before designing Suggest simple improvements	Understand concepts of stability and strength Explore and use simple mechanisms including wheels and axles, levers and sliders Identify rotational movement Recognise that materials affect strength and function Recognise that structures serve different purposes	Prepare food safely using basic techniques Understand the five food groups and what constitutes a balanced diet Understand where food comes from (plants and animals) Identify and use simple ingredients
By the end of Year 4	Develop clear design criteria based on purpose, user and research Use annotated sketches, diagrams (including exploded diagrams), simple prototypes and CAD to communicate ideas Generate multiple ideas considering function, aesthetics and feasibility Design products that incorporate structures, mechanisms or electrical systems Use research (e.g. seasonality, audience, existing products) to refine ideas.	Select materials, textiles or ingredients based on functional and aesthetic properties Use a broader range of techniques with increasing accuracy including precise cutting and joining, measuring and sewing Construct products involving pneumatic systems, structures (nets, frames) and simple circuits Follow and adapt recipes safely	Evaluate products against design criteria and user needs Analyse existing products for functionality and aesthetic appeal Use peer feedback to refine designs Evaluate food using taste, texture, appearance and environmental considerations	Understand mechanical systems, including pneumatics and combined mechanisms Understand and use components in series circuits including switches, bulbs, buzzers and motors Name and identify different structures, nets, frames and reinforcement techniques Use appropriate vocabulary to describe how products function	Understand what seasonal food is Evaluate the environmental impact of food choices Follow recipes using a range of techniques with increasing independence Describe food using sensory vocabulary
By the end of Year 6	Develop complex design specifications considering user needs, cost, sustainability and constraints Use prototyping and iterative refinement Communicate designs using annotated sketches, pattern pieces, CAD software and multiple perspectives Design integrated products combining mechanical, electrical and digital systems.	Independently select materials, tools and equipment based on research and criteria. Apply advanced techniques including accurate measuring, marking and cutting, incorporating electrical systems and digital programming Plan and work through multi-step processes independently Apply consistent safety procedures, including risk awareness Work to timescales, modifying designs during construction	Understand how key designers, engineers and technological developments have shaped the world Critically evaluate based on function, aesthetics, usability and sustainability Assess products against complex criteria including cost and impact Justify improvements using evidence and feedback Evaluate food products including nutritional content and production processes	Apply knowledge of complex systems, including gears, pulleys, cams, levers, linkages, motors and sensors Program, monitor and control products using digital systems Make choices to take account of material properties Understand structural reinforcement through triangulation or bracing Understand how systems combine within integrated products	Adapt recipes based on nutritional needs and research findings Understand the concept of food provenance, including how ingredients are grown, reared, caught and processed Demonstrate awareness of cross-contamination and hygiene Work independently to plan, cook and evaluate predominantly savoury meals Evaluate dishes using sensory analysis and nutritional understanding