High Ercall Primary School Progression in Design and Technology		
Date: Autumn 26	**Subject Lead: LCS**	**Review: Autumn 29**

Curriculum Intent: Our ambitious DT curriculum enables all pupils to know more, remember more and apply more over time. Pupils engage in an iterative process of designing, making and evaluating purposeful products for real users and contexts. They progressively build practical knowledge, technical knowledge and design/evaluative knowledge, drawing on mathematics, science, engineering, computing and art. Cooking and nutrition is taught as an essential life skill.

Assessment is formative and curriculum-linked. Each unit begins with a shared mind map organised around Design & Evaluate; Making Skills & Technical Knowledge; Designers/Inventors/Existing Products; and Vocabulary. Essential knowledge feeds a cumulative DT Retrieval Wall for brief low-stakes and spaced retrieval. Quizzing supports recall of vocabulary, components, materials, processes, safety and technical knowledge; practical competence and iterative design are assessed through observation, prototypes, testing, pupil explanation, evaluation and improvements. Final products are one source of evidence, not the sole measure of attainment.

Curriculum Expectations: What do we want children to be able to do by the end of Year 6?

We follow the National Curriculum expectations for Design and Technology and expect that our pupils will have met, or exceeded, the expected standards for Year 6 pupils. As the pupils progress through school we expect them to be able to use their bank of skills, knowledge and understanding in order to design and make a wide range of products and be able to test and evaluate what they have made. They should have acquired a deeper knowledge about the design and technology they see in world around them and to be able to apply this to their own ideas.

Links with reading and writing		**Links to school key drivers**	
	Creating labels and captions		**Resilience:** Evaluation of work – what could I do better next time, how does my product work? Challenging skills – what skills have I learnt and how can I build on them.
	Reading and writing instructions		
	Creative writing based around an object		**Outdoor Learning:** Opportunities to use woodwork area outside EYFS. Forest School Use of tools Growing food - seasonality
	Peer assessment and feedback		
	Researching designers and makers		**Diversity:** Links to real life, jobs and skills which are needed in the real world. The expectation that anyone can be a designer and maker. Links to different cultures and religions in food technology and designs and problem solving from around the world.
	High expectations of writing – apply the same principles as in English books.		

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design: users, purpose and criteria	Talk about what they want to make, who it is for and what it should do. Make simple choices and represent ideas through talk, drawing, construction and play.	Use own experiences and simple product exploration to generate ideas. Identify a user and purpose. State simple design criteria and communicate ideas through talk, drawings, templates or models.	Use information from existing products and users to generate and develop ideas. Write or agree clear design criteria. Make labelled drawings, templates and mock-ups and explain key choices.	Research user needs and relevant products. Develop a purposeful design brief and criteria. Communicate through annotated sketches, models, templates or pattern pieces and plan a sensible making sequence.	Use research to identify user needs and product features. Develop measurable criteria. Generate more than one idea and refine it using annotated sketches, prototypes, cross-sectional/exploded views or CAD where relevant.	Write a focused design specification for a defined user/context. Use research and testing to justify choices. Model and communicate ideas accurately using appropriate graphical methods, prototypes, pattern pieces and CAD.	Independently research a real need, user and context. Produce a precise specification with functional and aesthetic criteria. Generate, compare, model and refine alternative ideas, planning resources and manufacture efficiently.
Make: tools, materials and accuracy	Use small tools and construction materials with increasing control and safety. Join, shape and combine materials and explain what they are doing.	Select from a taught range of tools/materials. Measure and mark with support; cut, shape, join and finish using simple methods safely.	Choose tools/materials for their characteristics and explain choices. Measure, mark, cut, shape and join with improving accuracy; use simple finishing techniques.	Select tools, equipment and materials for function. Measure, mark out, cut, shape and assemble with increasing accuracy. Use temporary/permanent joins and modify during making.	Choose tools and materials for functional properties and aesthetic qualities. Work accurately with a wider range of tools; use jigs/templates where useful; apply appropriate finishing techniques.	Work with increasing precision, selecting tools, components and processes independently. Produce accurate components, use secure/permanent joins and make modifications in response to testing.	Manufacture a high-quality prototype/product with sustained accuracy and control. Select and justify tools, materials, components and finishing processes; manage tolerances and adapt manufacture when needed.
Evaluate: products, testing and iteration	Say what they like/dislike, whether their creation works and one thing they might change.	Explore familiar products: who they are for, what they do and how they work. Test own product against purpose/simple criteria and	Compare existing products using function, user, materials and construction. Evaluate throughout making and against design criteria; use feedback to make changes.	Investigate and, where appropriate, disassemble products. Test important features fairly. Evaluate against criteria and explain specific improvements.	Analyse existing products and design decisions. Use planned tests and user feedback during the iterative process. Evaluate against measurable criteria	Critically evaluate products and prototypes against specification, user feedback and test evidence. Identify trade-offs and make justified modifications.	Evaluate critically throughout the design cycle, drawing on testing, user feedback, sustainability and manufacture. Explain how evidence informed iterations and how the final

		suggest an improvement.			and refine accordingly.		product could be further improved.
Technical knowledge: structures	Build and combine construction materials; notice that wide bases, strong joins and supports can make models more stable.	Build freestanding structures and explore how shape, base, joining and materials affect strength and stability.	Use simple strengthening techniques such as folding, layering, joining and bracing; explain stronger/stiffer/more stable.	Apply understanding of frames, shells or triangulation where relevant; select materials and joins to improve strength and stability.	Strengthen, stiffen and reinforce more complex structures; test loads and use results to modify designs.	Apply structural knowledge to functional products, considering forces, load, reinforcement, material properties and accurate construction.	Justify structural solutions using evidence from testing; balance strength, stiffness, stability, weight, material use, aesthetics and intended function.
Technical knowledge: mechanisms & mechanical systems	Explore cause and effect through moving toys, construction kits and simple mechanisms.	Explore and use levers, sliders, wheels and axles in purposeful products; name basic parts and describe movement.	Choose and combine KS1 mechanisms appropriately; identify input, movement/output and how position/size affects performance.	Use pneumatic systems and/or simple linkages where relevant; explain how an input is transferred to create controlled movement.	Understand and use cams, followers, axles and linkages in products; compare cam profiles or mechanisms and use testing to refine movement.	Use a wider range of mechanical systems, including gears/pulleys/cams/levers/linkages where relevant; select systems to achieve a specified movement.	Combine and refine mechanical systems to control speed, direction, force or movement; explain mechanical advantage or trade-offs at an age-appropriate level.
Technical knowledge: electrical systems & computing	Explore battery-operated toys and switches through supervised play; notice that actions can make things start/stop.	Encounter simple electrical products and use correct everyday safety language; formal electrical product design is not required at KS1.	Explore how switches/control features change products, linking to science where appropriate; distinguish electrical from non-electrical products.	Build simple series circuits in products using cells/batteries, wires, bulbs/LEDs, buzzers or motors and create/use a simple switch.	Design a functional electrical product with a complete circuit; select components for purpose and troubleshoot simple faults.	Use electrical systems including switches, bulbs/LEDs, buzzers and motors; integrate a circuit securely into a designed product and evaluate its control/function.	Combine electrical and mechanical systems and, where appropriate, apply computing to program, monitor or control a product; debug and refine the system.
Textiles	Explore fabrics through cutting, threading, joining and decorating with increasing fine-motor control.	Cut and join fabric using simple methods; explore templates and decoration for a clear purpose.	Use a template/pattern, basic sewing techniques and a simple fastening or joining method to create a functional textile product.	Measure, pin, cut and join fabric with greater accuracy; use taught stitches and select decoration suited to the user/purpose.	Use seam allowance, stronger stitches and/or fastenings as appropriate; select fabrics for functional and aesthetic properties.	Create and adapt pattern pieces/templates; use a range of stitches accurately and test fit/function for a defined user.	Independently select textile construction techniques, fastenings and finishes; work accurately and evaluate durability, fit, function and aesthetics.
Cooking & nutrition	Talk about healthy choices and where	Know that food comes from plants or animals and is	Group foods using current healthy-eating guidance; select and	Know that food is grown, reared and caught in the UK and	Understand seasonality and begin to explain how	Apply principles of a healthy varied diet; compare provenance,	Independently plan, prepare and evaluate a predominantly savoury

	familiar foods come from. Prepare simple foods with adult support, using hygiene routines and safe utensils.	grown, reared or caught. Use basic principles of a healthy varied diet; prepare simple dishes hygienically without heat.	prepare ingredients safely using techniques such as peeling, cutting, grating, mixing and spreading.	wider world. Prepare predominantly savoury dishes; measure ingredients and use a growing range of techniques safely.	ingredients are produced/processed. Follow a recipe, use heat where appropriate and adapt ingredients for user needs.	seasonality, cost and sustainability. Prepare and cook predominantly savoury dishes using accurate measuring and a range of techniques.	dish for a defined user, adapting recipes and applying knowledge of nutrition, seasonality, provenance, processing, hygiene, allergens and safe heat use.
Designers, inventors, products & technological impact	Notice that people design and make the objects, buildings and foods around us. Talk about familiar products and jobs.	Know that products are designed for people and purposes. Encounter named designers/makers/ inventors linked to units.	Compare products from different contexts and identify useful features. Recall named designers/makers/inve ntors and a simple contribution.	Investigate how products are designed and manufactured and how an inventor/designer solved a problem. Use this knowledge to inform own design decisions.	Explain how selected designers, engineers, inventors or manufacturers influenced products/technologi es; consider how context affects design.	Analyse key events/individuals in design and technology and make connections to materials, systems, manufacturing, sustainability and user needs.	Use knowledge of past and present design/technology to critique impact on daily life and the wider world, including ethical and environmental considerations, and apply insights to own design work.
Vocabulary, retrieval & metacogniti on	Use and revisit concrete vocabulary for tools, materials, actions, shapes, food and movement; explain choices orally.	Recall key unit vocabulary and simple technical terms. Use the class mind map and retrieval wall to say what they know and what they need to practise.	Use increasingly precise vocabulary to describe materials, mechanisms, criteria, tools and evaluation. Retrieve prior knowledge and explain how it helps the current task.	Use technical vocabulary accurately in design talk and annotations. Plan, monitor and evaluate making; use retrieval to recall component knowledge before application.	Use precise terms for systems, structures, textiles, food and processes. Explain why a technique/material was selected and identify when prior knowledge needs revisiting.	Use ambitious subject vocabulary to justify design decisions and interpret test evidence. Independently use prior learning, feedback and retrieval to regulate the design process.	Communicate technical and evaluative thinking fluently using precise vocabulary. Select relevant prior knowledge independently, monitor progress against specification and justify changes using evidence.