



A curriculum planned with aspirations for pupils to leave North Wheatley C of E Primary with:

- The knowledge and skills to design by communicating innovative ideas and plans and modifying designs and prototypes in light of testing and evaluation
- The ability to develop technical competence, applying measurement and using tools and components with increasing accuracy to safely make well-finished products.
- The personal motivation to be excited about processes and methods of design and to be able to make connections between these and other knowledge.



Subject Progression Framework

1

- Introduce the D&T concept being learned through the use of the technical knowledge section (e.g. mechanisms/ textiles).
- New learning to begin by recalling and recapping prior learning about the technical knowledge that is being focused on. What do children already know and understand?
- Underpin technical and formal knowledge (substantive) through the precise teaching of new vocabulary.

2

- Pupils are taught the appropriate technical knowledge and skill needed for forthcoming design challenge/ problem.
- Pupils practice using this knowledge in a practical way (disciplinary knowledge)
- Pupils know and use the correct technical vocabulary relevant to the knowledge being learned (substantive knowledge).

3

- Now that pupils have built up their knowledge and understanding of the technical knowledge and have practised applying the relevant skills, they are introduced to a design challenge/ problem.
- Pupils use a range of sources to research and evaluate existing products and present their findings.

4

- Pupils build on their research and technical knowledge to begin their own design journey.
- Pupils communicate their ideas in a range of ways appropriate to the challenge being presented.
- Pupils design their products to a success- criteria in order to create a final design idea.

5

- Once pupils have successfully shared and communicated their final design, they are able to begin the making process.
- Pupils use, refine and evaluate their plans throughout the making process.
- Pupils carefully apply their technical knowledge, safely and respectfully using tools and resources.

6

- Pupils evaluate their final product through testing and comparison against the success criteria.
- Pupils consider the input of others in their evaluation.
- Pupils record their evaluations, and the importance of this step is emphasised as key to the design and technology process within the modern world.

Technical knowledge

This is the knowledge and skill that pupils need to develop before they can design and successfully make a product. This knowledge should be taught in a practical way before allowing pupils to move on to apply it to solve a design problem/ challenge.

Design

Once pupils have built up the technical knowledge needed, we aim to provide pupils with relevant and exciting design problems and challenges. These provide pupils with the opportunity to design products for a wide range of users, whilst thinking creatively.

Make

Through testing, refining and developing outcomes are produced that are fit for purpose, through the creative application of learned technical knowledge and skill.

Evaluate

Pupils critique, evaluate and test their ideas and products and those of others. They evaluate existing products as part of the design process.

CURRICULUM STRANDS	DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE	COOKING AND NUTRITION	Communication and Language Development
EYFS	See EYFS Tapestry Curriculum for Birth to Early Learning Goal Curriculum. The EYFS Tapestry feeds into the Key Stage One Curriculum.					
Key Vocabulary	names of materials	(descriptive words to describe the size/ shape/ location/ action when creating)	how, why, what if	turns, moves, opens, closes, slides	healthy, unhealthy, mix, stir, slice, peel	- Have fun discussion about the pupils' experiences that link to the development of their products. - Pupils to interview each other about their choices of tools and equipment. Have question cards to use as prompts. - Talk about food choices and pupils to discuss why they made their choices. - Pupils to verbally explain how they know that they are using equipment safely.
KS1 Year 1  Year 2 	- Generate ideas by drawing on their own and other people's experiences - Develop their design ideas through discussion, observation, drawing, templates, mock-ups and communication technology - Identify a purpose for what they intend to design and make and work in a range of relevant contexts - To identify simple design criteria - To make simple drawings and label parts	- Explore different materials and become familiar with their properties and uses - Make models in 2D and 3D and, where appropriate, using information technology to record the development of their designs - Begin to independently select tools and materials and use vocabulary to name and describe them - Measure, cut and score with some accuracy - Use hand tools safely and appropriately - Explore and use mechanisms (for example levers, sliders, wheels and axles) - Build structures, exploring how they can be made stronger, stiffer and more stable - Choose and use appropriate finishing techniques	- Evaluate against their design criteria - Explore and evaluate a range of existing products Evaluate their products as they are developed, identifying strengths and possible changes they might make - talk about their ideas, saying what they like and dislike about them	know and use technical vocabulary relevant to the project <u>Mechanisms</u> - explore and use sliders and levers - understand that different mechanisms produce different types of movement <u>Structures</u> - know how to make freestanding structures stronger, stiffer and more stable. <u>Textiles</u> - understand how simple 3-D textile products are made, using a template to create two identical shapes. - understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. - explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.	- understand where a range of fruit and vegetables come from e.g. farmed or grown at home. - understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell Plate. - know and use technical and sensory vocabulary relevant to the project.	
Key Vocabulary	design criteria product user function, mock-up model template	Cutting, measure, folding, join gluing, shape, tearing, decorate, mark out, tool, strengthen, safety, assemble finishing templates, material, properties, components equipment	Evaluate, product, like, dislike, design, criteria, improved, better	know and use technical vocabulary relevant to the project (vocabulary within objectives)	Portion, fruit and vegetables, proteins, carbohydrates, dairy, hygiene, peeling grating cutting healthy/unhealthy	

CURRICULUM STRANDS	DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE	COOKING AND NUTRITION	Communication and Language Development
LKS2 Year 3  Year 4 	- Consider the purpose for which they are designing - generate, develop and communicate their ideas through discussion, annotated sketches and diagrams from different views showing specific features - develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail - evaluate products and identify criteria that can be used for their own designs	- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities - join and combine materials and components accurately in temporary and permanent ways - sew using a range of different stitches, to weave and knit - measure, tape or pin, cut and join fabric with some accuracy - use simple graphical communication techniques	- explore and evaluate a range of existing products - evaluate their product against original design criteria e.g. how well it meets its intended purpose - disassemble and evaluate familiar products - understand how key events and individuals in design and technology have helped shape the world	Know and use technical vocabulary relevant to the project. <u>Mechanical systems</u> - understand and use lever and linkage mechanisms. - distinguish between fixed and loose pivots. <u>Structures</u> - develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. - develop and use knowledge of how to construct strong, stiff, structures <u>Textiles</u> - Know how to strengthen, stiffen and reinforce existing fabrics. - Understand how to securely join two pieces of fabric together. - Understand the need for patterns and seam allowances. <u>Electrical systems (simple circuits and switches)</u> - understand and use electrical systems in their products	- 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. - know how to use appropriate equipment and utensils to prepare and combine food. - know and use relevant technical and sensory vocabulary appropriately.	- Model the use of open questions with the pupils so that they can ask their friends the reasons for their design choices. - Pupils to teach their technical knowledge to each other through learning mentors. - Pupils to verbally evaluate their products and testing process with their peers. - Be able to discuss their design choices and reasons for modifications. - Be able to use technical knowledge when evaluating their peers products.

Key Vocabulary	Appeal, criteria, research, preference, purpose, intended user, parts, idea, product, annotate, sketch, prototype, patterns sketches, decide/decision model, annotations, notes, cross-sections, drawing, resources	Tools, equipment, materials, components, function, mechanical, electrical, construction, finishing, polishing, assemble, stages of making, measure, mark out, cutting, shaping, perimeter, slots, cut-outs, varnishing sanding, components,	Criteria, evaluate, product, purpose, user needs, design, construction, methods, strengths, areas for development, view preference, reasons, improve	know and use technical vocabulary relevant to the project (vocabulary within objectives)	processed, peel, chop, slice, grate, mix, fresh, spread knead, bake, healthy diet, varied, organic, savoury, sweet, recipe appearance, prepare, temperature, taste texture, hygiene safety, measure, gram, kilogram, hob, cook, utensils, grown, reared, caught, fishing, seasonal ingredients	Play games to generate discussions. The 5 W's game.
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CURRICULUM STRANDS	DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE	COOKING AND NUTRITION	Communication and Language Development
UKS2 Year 5  Year 6 	- develop a design specification - plan the order of their work, choosing appropriate materials, tools and techniques - use research to design innovative, functional, appealing products aimed at a particular individuals or groups - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams,	- select appropriate and a wider range of tools, materials, components and techniques according to their functional properties and aesthetic qualities - assemble components to make working models - use tools safely and accurately - construct products using permanent joining techniques (for example cutting, shaping, joining and finishing)	- evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests - consider the views of others to improve their work - record their evaluations using drawings with labels - evaluate against their original criteria and suggest ways that their product could be improved	Know and use technical vocabulary relevant to the project. <u>Mechanical systems</u> - understand that mechanical systems have an input, process and an output. - understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. <u>Structures</u> - apply their understanding of how to strengthen, stiffen and	- know how to use utensils and equipment including heat sources to prepare and cook food. - understand about seasonality in relation to food products and the source of	- Pupils to use model questions to create their own quizzes to 'test' each other's technical knowledge. - Develop questions for pupils to ask each other at significant points

	prototypes, pattern pieces and computer-aided design	• apply understanding of how to strengthen, stiffen and reinforce more complex structures • make modifications as they go along • measure, tape or pin, cut and join fabric with some accuracy • pin, sew and stitch materials together to create a product • achieve a quality product • understand and use electrical systems in their products (for example series circuits incorporating switches, bulbs, buzzers and motors) • apply understanding of computing to program, monitor and control their product	• understand how key events and individuals in design technology have helped shape the world	reinforce more complex structures (3D models) <u>Textiles</u> • Know that 3-D textile products can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Know that fabrics can be strengthened, stiffened and reinforced where appropriate Electrical systems (more Complex Switches and Circuits) • understand and use electrical systems in their products. • apply their understanding of computing to program, monitor and control their products.	different food products. • know and use relevant technical and sensory vocabulary appropriately.	during the design, make and evaluation process. • Be able to discuss each point in the process, using technical knowledge and vocabulary.
Key Vocabulary	Enterprise, industry, surveys interviews, design specification, appealing, fit-for-purpose, questionnaires, preferences, individuals, groups, design features, functional research, value, prototype, cross section, realistic, innovative, constraints, discuss(ion) annotate, decisions, resources, clarify, constraints, sketch, cross-sectional, generate, model, develop, prototype, exploded diagram,	Suitability, aesthetic, procedures, accuracy, cutting, shaping, joining, finishing, accuracy, assemble, combine, components, equipment techniques, measure, mark out,	Manufacture, innovative, sustainability, construction, effective, designed, products, function(al), suitable, successful, improvement, intended impact, materials, methods, analyse, existing, areas for development, views, developing, design, product, criteria, improve, evaluate, design specification, quality, manufacture	know and use technical vocabulary relevant to the project (vocabulary within objectives)	baking, melting, whisking, proving, rise, dissolving, juicing, caught, ethical, kosher, gluten -free, seasonal, growing, reared, fishing, dietary requirements, vegetarian, vegan	

Cohort attainment and progress tracker

(Entering=E, Beginning=B, Developing=D, Meeting=M, Exceeding=Exc, Greater Depth Standard=GDS)

Cohort's Achievement Each Term (%)							
		E	B	D	M	Exc	GDS
Year 1	Autumn						
	Spring						
	Summer						
Year 2	Autumn						
	Spring						
	Summer						
Year 3	Autumn						
	Spring						
	Summer						
Year 4	Autumn						
	Spring						
	Summer						
Year 5	Autumn						
	Spring						
	Summer						
Year 6	Autumn						
	Spring						
	Summer						

Continuous dialogue reflecting yearly progress of learning and notes to feedforward for future planning.

	Notes and feedforward (Individual pupils, group, class)	QA by Subject Leader
EYFS		
Year 1		
Year 2		
Year 3		
Year 4		
Year 5		
Year 6		