

All Hallows C of E Primary School Design and Technology Curriculum



"Design is a funny word. Some people think design means how it looks. But of course, if you look deeper, it's really how it works."
Steve Jobs

"Technology makes possibilities. Design makes solutions." **John Maeda**

"All sorts of things can happen when you're open to new ideas and playing around with things." **Stephanie Kwolek**

Intent

Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At All Hallows, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other subjects such as mathematics, science, engineering, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

	Development Matters	Early Learning Goals
EYFS	<p>Physical development</p> <p>Progress towards a more fluent style of moving, with developing control and grace. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.</p> <p>Expressive arts and design</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.</p>	<p>Choose the resources they need for their chosen activities Handle equipment and tools effectively Children know the importance for good health of a healthy diet They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology</p>

Aims of the curriculum

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Key Stage 1

When designing and making, pupils should be taught to:

Design

- 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

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, 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

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- 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.

Cooking and nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

When designing and making, pupils should be taught to:

Design

- 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

Make

- 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 qualities

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 technology have helped shape the world

Technical 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.

Cooking and nutrition

- 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.

Implementation

We have adopted a topic based approach to our Design and Technology teaching and learning. This means that design projects are completed as part of a wider theme for the term - such as World War 2. Below is a whole school map showing the design projects completed and how these fit into the main theme for each term.

	Autumn Term	Spring Term	Summer Term
Foundation	Create items of personal interest. Large scale construction. Cutting using scissors. Select tools and techniques. Joining techniques. Design and make an object of person interest.		
Year 1 themes where DT skills and knowledge are exploited:	History: Now and then;	Art: Designing cars	Geography: Holidays
DT ideas	Design a simple moving picture from a template using sliders and levers.	Design a roly-poly toy with fixed wheels.	Prepare a variety of fruit and vegetables for tasting. Begin to understand where these come from. Testing lunchbox designs.
Year 2 themes where DT skills and knowledge are exploited:	History - Explorers: The Arctic		Geography: Our Wonderful World.
DT ideas	Design and make a pair of mittens. (Textiles - including simple sewing with a scaffolded resource such as pre-punched materials)	Building on from year 1s fixed wheeled car - design and make a Ferris Wheel with free axels. Begin with a mock-up of design and improve.	Explore traditional foods from different parts of the world. Make summer smoothies.
Year 3 themes where DT skills and knowledge are exploited:	English book study: King of space	Food and nutrition	Geography: Rainforests
DT ideas	Design and make mechanical posters.	European cuisine - making a vegetable tart.	Rainforest bridges (Structures)
Year 4 themes where DT skills and knowledge are exploited:	Science: States of matter.	History: Anglo-Saxons and Vikings	History: Roman Britain
DT ideas	Design and make a new ice-cream - including visiting a commercial company to see the production process and testing	Design and sew a product with a range of stitches.	How fast should your Roman Chariots be? Use an electrical circuit to run a moving part.

	already developed/successful products.		
Year 5 themes where DT skills and knowledge are exploited:	Seasonal toys		Computing: Programming using software that produces an output. (Crumble)
DT ideas	Textiles - sewing a Christmas stuffed toy.	Moving mechanisms. Using cams to make moving toys.	Fairground ride design with a computer-based program to perform an output.
Year 6 themes where DT skills and knowledge are exploited:	History: World War 2	Geography: The Americas	End of year project: Improving our landscape
DT ideas	Design and make Anderson shelters looking at the ability to reinforce a curved structure.	Research and plan a selection of traditional South American dishes to then make.	Design a new playground. (Structures)

Design and Technology – Long term plan

Strands: **Design**/**Make**/**Evaluate**/Technical Knowledge/**Food and nutrition**

(Sticky Knowledge highlighted in bold)

	Autumn		Spring		Summer	
	Knowledge	Contextual Vocabulary	Knowledge	Contextual Vocabulary	Knowledge	Contextual Vocabulary
R	<p><i>These skills are developed throughout the year and not assigned to a half term.</i></p> <p>Knowledge: Know how to join materials using tape and glue.</p> <p>Know how to hold tools safely.</p> <p>Know how to use both hands together for tasks (e.g. holding paper while cutting)</p> <p>Know how to control fine motor tools to create detail in drawing and modelling.</p> <p>Skills: Uses glue or tape to join materials.</p> <p>Describe simple actions and materials when sharing work.</p> <p>Begins to use a more refined grip with adult support.</p> <p>Begins to hold and use small tools with adult support.</p> <p>Holds tools effectively and can control movement and support.</p> <p>Maintains grip and accuracy over longer periods with minimal support.</p> <p>Use tools independently in familiar activities.</p> <p>Can use a variety of tools effectively in structured tasks.</p> <p>Use a range of small tools confidently and effectively.</p>		<p>Contextual vocab: Creation Make Solutions Join/ing Scissors Cut Create Explain Make better/improve Materials and their names such as tape, pipe cleaners, string, glue (Depending on materials available.)</p>			

Y1	<p>Moving pictures from a template using sliders and levers. (Mechanisms)</p> <p>know how to explain to someone else how I want to make my product</p> <p>know how to draw a simple plan with support from templates before making</p> <p>know how to use tools safely for a specific purpose (e.g. to cut, shape or to join)</p> <p>know what went well with my own work against a design criteria</p> <p>know how to make a simple product that moves (levers and sliders.)</p>	<p>Design Function Functional Template Slider Lever Moving Shape</p>	<p>Designing a roly-poly car with fixed wheels (Mechanisms)</p> <p>know how to describe how my own idea works</p> <p>know how to draw a simple plan with support from templates before making</p> <p>know how to use own design plan to make something</p> <p>know how to use tools safely for a specific purpose (e.g. to cut, shape or to join)</p> <p>know how to make a simple product that moves</p>	<p>Moving mechanism Product Fixed wheel Design Plan User</p>	<p>Holidays – Picnic for a day out (Food and nutrition)</p> <p>know where some fruit and vegetables come from</p> <p>know which foods are healthy and which are not</p> <p>know how to cut food safely</p> <p>know how to use basic food handling, hygiene practices and personal hygiene</p> <p>know how to follow a given recipe to create a cold dish</p> <p>Testing Lunchbox designs. (Structures)</p> <p>know how to use own ideas to design a functional product</p> <p>know how to assemble and join materials (including construction materials) using a variety of methods</p> <p>know how to use tools safely for a specific purpose (e.g. to cut, shape or to join)</p> <p>know how to explore a range of existing products and describe what makes it work well to inform my own choices</p> <p>know what went well with my own work against a design criteria</p> <p>know how to make my own model stronger/stiffer</p>	<p>Recipe Hygienic Chopping board</p> <p>Structure Assemble Design criteria Stiffen Stronger 2D 3D</p>
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<p>Y2</p>	<p>Explorers: The Artic - Mittens (Textiles)</p> <p>know the purpose and audience of my product through design criteria set by the teacher</p> <p>know how to explain why I have chosen specific textiles or materials</p> <p>know how to cut and join fabric to make a simple product</p> <p>know how to use simple sewing techniques with support or scaffolded resource</p> <p>know how to carry out finishing techniques that have been modelled by the teacher</p> <p>know how to explore and evaluate a range of existing products describing what makes it work well and not so well to inform my own choices</p>	<p>Audience Purpose Suitable Fabric Sew Needle Mark out Running Stitch Decorate Pattern</p>	<p>Ferris Wheels (Mechanisms)</p> <p>know how to draw a simple design and label the parts of my product</p> <p>know how to make a mock- up of my design where appropriate</p> <p>know how to identify and name a selection of hand tools</p> <p>know how to choose tools and materials and explain why I have chosen them</p> <p>know how to use wheels and axles, when appropriate to do so</p> <p>know how simple mechanisms work (wheels and axels)</p> <p>know what was successful and less successful in the model I have made against a design criteria</p>	<p>Mechanical Evaluate Investigating Wheel Axle Axel holder Chassis Body Mock-up Design criteria</p>	<p>Our wonderful world (Food and Nutrition)</p> <p>Sensational summer smoothies</p> <p>know how to use IT to communicate and research ideas where appropriate (e.g. taking pictures and annotating them)</p> <p>know how to explore and evaluate a range of existing products describing what makes it work well and not so well to inform my own choices</p> <p>know where a variety of foods come from</p> <p>know about foods that support good health and the risks of eating too much sugar</p> <p>know how to follow safe procedures for food safety and hygiene</p> <p>know how to follow a given healthy recipe to create a cold dish</p>	<p>Weigh Grate Mash Amount Existing product Investigating Food origins</p>
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<p>Y3</p>	<p>Mechanical posters (Mechanisms)</p> <p>know how to design a product and make sure that it looks appealing</p> <p>know how to draw annotated designs with labels that detail my material choices and suitability of the given materials</p> <p>know how to select the most appropriate technique for shaping and joining</p> <p>know how to work accurately to measure, make cuts and make holes</p> <p>know how to choose finishing techniques to improve the appearance of my products using a range of equipment including ICT</p> <p>know how to improve my finished product in relation to the design criteria</p> <p>know how to create a product with a simple mechanism (e.g. gears, pulleys, cams, levers and linkages)</p>	<p>Annotate Process Accurate Levers Linkages Finishing</p>	<p>European cuisine – Italian (Food and nutrition)</p> <p>know how to design a product and make sure that it looks appealing</p> <p>know how to select the most appropriate tools for a given task</p> <p>know how to improve my finished product in relation to the design criteria</p> <p>know when food is available for harvesting and understand seasonality</p> <p>know what a balanced diet looks like</p> <p>know how to demonstrate hygienic food preparation</p> <p>know how to weigh out ingredients and follow a given healthy recipe to create a dish</p>	<p>Seasonality Harvest Balanced diet Weighing Ingredient Edible Texture Utensil Appealing</p>	<p>Rainforest bridges (Structures)</p> <p>know how to prove that a design is fit for purpose and meets the user’s needs in line with the design criteria</p> <p>know how to follow a step-by-step plan, choosing the right equipment and materials</p> <p>know how to choose the right equipment and materials (including textiles, construction materials and/or ingredients)</p> <p>know why my own product has or has not been successful</p> <p>know why existing products have or have not been successful to inform my own designs</p> <p>know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p>	<p>Fit for purpose Needs/requirements Product Intention Material Reinforce Strengthen Measure</p>
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<p>Y4</p>	<p>Ice-cream maker (Food and nutrition)</p> <p>know that animals are reared and caught for food</p> <p>know safe practices in the kitchen and can identify hazards (e.g. hazards when using an oven)</p> <p>know how to weigh and measure accurately (timings, dry ingredients and liquids) to create a dish</p> <p>know how to use ideas from other people when designing</p> <p>know how to evaluate existing products for both their purpose and appearance</p> <p>know how to use IT where appropriate to add to the quality of the product (program, monitor and control)</p>	<p>Reared Grown Processed Varied diet Hazard Grams/Kilograms Millilitre/Litre Temperature Celsius Preferences Appearance</p>	<p>A useful bag (Textiles)</p> <p>know how to produce a design criteria to inform the designing and making process</p> <p>know how to mark, measure, cut and join accurately</p> <p>know how to sew, weave or knit using a range of stitches</p> <p>know how to evaluate my own and others final product against the design criteria</p>	<p>Back stitch Tacking Binca Hem Final product</p>	<p>How fast should your Roman chariots be? (Mechanisms/Electrical systems)</p> <p>know how to communicate ideas through annotated sketches that show different viewpoints of the product</p> <p>know which tools to use for a particular task and show my knowledge of handling the tool</p> <p>know which material and/or component is likely to give the best outcome based on its properties</p> <p>know how to evaluate and suggest improvements for my own designs</p> <p>know how to apply scientific knowledge of electrical systems to my structural or mechanical product (e.g. series circuits)</p>	<p>Structure Series circuit Bulb Buzzer Light Battery Motor Component Fault Electrical</p>
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<p>Y5</p>	<p>Christmas stuffed toy (Textiles)</p> <p>know how to explain how a product will appeal to a specific audience and how it meets the purpose through creating my own design criteria</p> <p>know how to carry out finishing techniques to enhance the appearance and function of my product</p> <p>know how to pin, sew and stitch materials together to create a product</p> <p>know how to evaluate appearance and function against the design criteria</p> <p>know how to collect information from investigating existing products, research and using ICT where appropriate</p>	<p>Functionality Construct Finishing techniques Pining Wadding Fastenings (poppers, Velcro, hook and eyes, zip) Pinking shears Cross stitch Seam allowance</p>	<p>Moving mechanisms with cams. (Mechanisms)</p> <p>know how to design with a range of initial ideas (using computer- aided design (CAD) where appropriate)</p> <p>know how to make a prototype before making a final version</p> <p>know and use a range of tools and equipment competently and safely</p> <p>know to suggest alternative plans using feedback from others; outlining the positive features and draw backs</p> <p>know how to apply scientific knowledge to my product design by using pulleys, cams, gears, levers and linkages</p>	<p>Prototype Cam Crank Housing Motion Oscillating Names of various tools Computer-aided design, (CAD)</p>	<p>Programmable models – Fairground rides (Computer controlled systems)</p> <p>know how to create annotated 3D drawings of my design on isometric or squared paper</p> <p>know and use a range of tools and equipment competently and safely</p> <p>know how to evaluate appearance and function against the design criteria</p> <p>know key events and individuals that have led to existing products</p> <p>know how to use IT program to program and control their products</p>	<p>Annotated diagram Function Design criteria Computer controlled movement Motors LED Crumble programming Coding Frederick Savage The Silcock Brothers</p>
<p>Y6</p>	<p>Anderson Shelters (Structures)</p> <p>know how to justify design choices and planning in terms of audience and purpose</p> <p>know how to draw detailed 3D designs using exploded diagrams or cross sectional drawing where appropriate to display finer details</p> <p>know which tool to use for a specific practical task</p> <p>know how to use any tool correctly and safely</p> <p>know why a specific tool is best for a specific action</p>	<p>Specification Requirements Frame Triangulation Exploded diagram Sir John Anderson</p>	<p>The Americas (Food and nutrition)</p> <p>know how to show that culture and society is considered in plans and design criteria</p> <p>know which tool to use for a specific practical task</p> <p>know how to use any tool correctly and safely</p> <p>know how to evaluate my own and others finished product against the design criteria</p> <p>know how to explain how food ingredients should be stored and give reasons (linked to seasonality)</p> <p>I know where and how certain</p>	<p>Savoury Storage Ingredients – names of specific items dependant on what is being used. Source Nutrition Intolerance Allergy.</p>	<p>Improving our playground (Structures)</p> <p>know how to justify design choices and planning in terms of audience and purpose</p> <p>know which tool to use for a specific practical task</p> <p>know how key events and individuals have shaped the products that exist today</p> <p>know how to test and evaluate my own prototype on a specified audience (where possible) and use feedback on final product</p>	<p>Fit for purpose Innovative Test Reinforce</p>

	<p>know how key events and individuals have shaped the products that exist today</p> <p>know how to use knowledge to improve a made product by strengthening, stiffening or reinforcing</p>		<p>foods are processed.</p> <p>know the difference between a savoury and sweet dish and select ingredients accordingly</p> <p>know how to prepare a dish from selecting the ingredients to baking/cooking using a heat source. (using appropriate techniques such as peeling/grating/mixing/slicing/chopping)</p>		<p>know how to use knowledge to improve a made product by strengthening, stiffening or reinforcing</p> <p>know which IT product would further enhance a specific product</p>	
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Impact

Knowledge Progression Grid - Design and Technology

At the end of each year group, pupils will know and be able to...

Strand	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Design	I know what a product is	I know how to use own ideas to design a functional product	I know the purpose and audience of my product through design criteria set by the teacher I know how to use IT to communicate and research ideas where appropriate (e.g. taking pictures and annotating them)	I know how to prove that a design is fit for purpose and meets the user's needs in line with the design criteria	I know how to use ideas from other people when designing (e.g. creating a mood board of existing products)	I know how to design with a range of initial ideas using computer-aided design (CAD) where appropriate (e.g. CAD for packaging) Covered within computing.	I know how to justify design choices and planning in terms of audience and purpose	I know how to create my designs against a specific design specification for a specific audience
	I know how to discuss what I want to make I know to discuss problems and how they might be solved as they arise, with an adult	I know how to describe how my own idea works I know how to explain to someone else how I want to make my product	I know how to explain why I have chosen specific textiles or materials	I know how to design a product and make sure that it looks appealing	I know how to produce a design criteria to inform the designing and making process	I know how to explain how a product will appeal to a specific audience and how it meets the purpose through creating my own design criteria	I know how to show that culture and society is considered in plans and design criteria	I know how to show that my product can be made in a sustainable way I know how to understand and research a product within the context of the world around me
	I know how to use drawing to create a simple plan	I know how to draw a simple plan with support from templates before making	I know how to draw a simple design and label the parts of my product	I know how to draw annotated designs with labels that detail my material choices and suitability of the given materials	I know how to communicate ideas through annotated sketches that show different viewpoints of the product	I know how to create annotated 3D drawings of my design on isometric or squared paper	I know how to draw detailed 3D designs using exploded diagrams or cross sectional drawing where appropriate to display finer details	I know how to create a detailed step-by-step plan of the making process, utilising my knowledge of specific technical vocabulary and detailed sketches I know how to design products using sketching skills and rendering and creating 3d designs where appropriate

Strand	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Make	I know that designs can help shape our thinking before making something	I know how to use own design plan to make something	I know how to make a mock-up of my design where appropriate (e.g. paper patterns for mittens/gloves)	I know how to follow a step-by-step plan, choosing the right equipment and materials		I know how to make a prototype before making a final version		I know how to create prototypes and patterns dependant on subject area	
	I know how to self-select from range of tools and materials in the continuous provision.	I know how to use tools safely for a specific purpose (e.g. to cut, shape or to join)	I know how to identify and name a selection of hand tools I know how to choose tools and materials and explain why I have chosen them	I know how to select the most appropriate tools for a given task I know how to choose the right equipment and materials (including textiles, construction materials and/or ingredients)	I know which tools to use for a particular task and show my knowledge of handling the tool I know which material and/or component is likely to give the best outcome based on its properties	I know and use a range of tools and equipment competently and safely	I know which tool to use for a specific practical task I know how to use any tool correctly and safely I know why a specific tool is best for a specific action	I know the basic safety rules in the classroom and the workshop I know the constraints of working in a school environment in comparison to industrial production	
	I know different techniques for joining materials, such as how to use adhesive tape, glue, string, pipe cleaners.	I know how to assemble and join materials (including construction materials) using a variety of methods	I know how to join materials and components in different ways I know how to cut and join fabric to make a simple product	I know how to select the most appropriate technique for shaping and joining I know how to work accurately to measure, make cuts and make holes	I know how to mark, measure, cut and join accurately				I know how to successfully mark and cut materials with increasing accuracy
	I know how to thread continuously (e.g. using lacing boards)		I know how to use simple sewing techniques with support or scaffolded resource		I know how to sew, weave or knit using a range of stitches	I know how to pin, sew and stitch materials together to create a product			I know how to use a range of temporary and permanent stitches by hand or machine
	I know how to select the appropriate materials to create a desired aesthetics (e.g. a straw/stick/blocks houses for the 3 little pigs)		I know how to carry out finishing techniques that have been modelled by the teacher	I know how to choose finishing techniques to improve the appearance of my products using a range of equipment including ICT		I know how to carry out finishing techniques to enhance the appearance and function of my product			I know how to apply finishing techniques to enhance a product

Strand	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Evaluate		I know how to explore a range of existing products and describe what makes it work well to inform my own choices	I know how to explore and evaluate a range of existing products describing what makes it work well and not so well to inform my own choices	I know why existing products have or have not been successful to inform my own designs	I know how to evaluate existing products for both their purpose and appearance	I know how to collect information from investigating existing products, research and using ICT where appropriate		I know how to analyse the work of past and present professionals and others to develop and broaden my understanding
						I know key events and individuals that have led to existing products	I know how key events and individuals have shaped the products that exist today	
	I know how to evaluate my product using appropriate vocabulary including how I might make it better	I know what went well with my own work against a design criteria	I know what was successful and less successful in the model I have made against a design criteria	I know why my own product has or has not been successful I know how to improve my finished product in relation to the design criteria	I know how to evaluate my own and others final product against the design criteria I know how to evaluate and suggest improvements for my own designs	I know how to evaluate appearance and function against the design criteria I know to suggest alternative plans using feedback from others; outlining the positive features and draw backs	I know how to evaluate my own and others finished product against the design criteria I know how to test and evaluate my own prototype on a specified audience (where possible) and use feedback on final product	I know how to evaluate my own and others work giving feedback based on the design specification I know the drawbacks of the product, design and making process and suggest improvements for all aspects

Strand	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Technical knowledge		I know how to make my own model stronger/stiffer	I know how to make a model stronger, stiffer (if appropriate) and more stable	I know how to strengthen a product by stiffening a given part or reinforce a part of the structure			I know how to use knowledge to improve a made product by strengthening, stiffening or reinforcing	I know and use the properties of materials and the performance of structural elements to achieve functioning solutions
		I know how to make a simple product that moves	I know how to use wheels and axles, when appropriate to do so I know how simple mechanisms work (e.g. sliders, levers, wheels and axels)	I know how to create a product with a simple mechanism (e.g. gears, pulleys, cams, levers and linkages)	I know how to apply scientific knowledge of electrical systems to my structural or mechanical product (e.g. series circuits incorporating switches, bulbs, buzzers and motors)	I know how to apply scientific knowledge to my product design by using pulleys, cams, gears, levers and linkages	I know how to use electrical systems correctly and accurately to enhance a given product	I know how more advanced mechanical systems used in my products enable changes in movement and force I know how more advanced electrical and electronic systems can be powered and used in my products [for example, circuits with heat, light, sound and movement as inputs and outputs]
					I know how to use IT where appropriate to add to the quality of the product (program, monitor and control)	I know how to use IT program to program, monitor and control their products	I know which IT product would further enhance a specific product	I know how to apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers] I know materials are made up of natural and man- made fibres I know how to enhance the aesthetic of a textile product using layering of materials (e.g. applique and mola)

Strand	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Cooking and Nutrition	I know the names of well-known fruit and vegetables	I know where fruit and vegetables come from	I know where a variety of foods come from	I know when food is available for harvesting and understand seasonality	I know that animals are reared and caught for food		I know how to explain how food ingredients should be stored and give reasons I know where and how certain foods are processed	
	I know how to make some simple healthy food choices I know the importance of healthy food choices	I know which foods are healthy and which are not	I know about foods that support good health and the risks of eating too much sugar	I know what a balanced diet looks like			I know the difference between a savoury and sweet dish and select ingredients accordingly	I know how to prepare a savoury meal taking into consideration healthy choices
	I know how to independently use a knife and fork I know how to follow simple hygiene rules, (e.g. washing hands before eating, washing hands before cooking)	I know how to cut food safely I know how to use basic food handling, hygiene practices and personal hygiene	I know how to follow safe procedures for food safety and hygiene	I know how to demonstrate hygienic food preparation	I know safe practices in the kitchen and can identify hazards (e.g. hazards when using an oven)			I know food hygiene and safety standards including use of the fridge and preparation of the cooking station
I know how to follow a recipe to combine different ingredients to create a dish with adult support such as gingerbread men.	I know how to follow a given recipe to create a cold dish	I know how to follow a given healthy recipe to create a cold dish	I know how to weigh out ingredients and follow a given healthy recipe to create a dish	I know how to weigh and measure accurately (timings, dry ingredients and liquids) to create a dish			I know how to prepare a dish from selecting the ingredients to baking/cooking using a heat source. (using appropriate techniques such as peeling/grating/mixing/slicing/chopping)	I know how to make one adaptation to the ingredients to enhance the recipe I know how to recognise and be able to use a variety of cooking equipment I know the importance of weighing and measuring ingredients accurately I know how to experiment with one type of useful bacteria (e.g. yeast)

	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Vocabulary (Cumulative)	Fruit	Design	Mechanical	Annotate	Reared	Functionality	Specification
	Vegetable	Function	Audience	Process	Grown	Construct	Requirements
	Taste	Functional	Suitable	Accurate	Processed	Finishing techniques	Frame
	Healthy	Template	Purpose	Levers	Varied diet	Pining	Triangulation
	Unhealthy	Slider	Fabric	Linkages	Hazard	Wadding	Exploded diagram
	Knife	Lever	Sew	Finishing	Grams/Kilograms	Fastenings (poppers, eyes, zip)	Sir John Anderson
	Fork	Shape	Needle	Seasonality	Millilitre/Litre	Velcro, hook and	Savoury
	Creation	Moving mechanism	Running Stitch	Harvest	Temperature Celsius		Storage
	Make	Product	Mark out	Balanced diet	Preference	Pinking shears	Ingredients – names
	Solutions	Fixed wheel	Decorate	Weighing	Appearance	Cross stitch	of specific items
	Join/ing	Plan	Pattern	Ingredient	Back stich	Seam allowance	dependant on what
	Scissors	User	Evaluate	Edible	Tacking	Prototype	is being used.
	Cut	Recipe	Investigating	Texture	Binca	Cam	Source
	Create	Hygienic	Wheel	Utensils	Hem	Crank	Nutrition
	Explain	Chopping board	Axle	Appealing	Final product	Housing	Intolerance
	Make better	Structure	Axel holder	Fit for purpose	Structure	Motion	Allergy.
	Materials and their	Assemble	Chassis	Needs/requirements	Innovative	Oscillating	Innovative
	names such as tape,	Design criteria	Body	Intention	Series circuit	Names of various	Test
	pipe cleaners,	Stiffen	Mock-up	Material	Bulb	tools	Reinforce
	string, glue	Stronger	Weigh	Reinforce	Buzzer	Computer-aided	
	(Depending on	2D	Grate	Strengthen	Light	design, (CAD)	
	materials available.)	3D	Mash	Measure	Battery	Annotated diagram	
	Personal interest		Amount		Motor	Function	
	Why?		Existing product		Component	Computer controlled	
	Pieces		Investigating		Fault	movement	
Improve		Food origins		Electrical	LED		
					Crumble		
					programming		
					Coding		
					Frederick Savage		
					The Silcock Brothers		

Assessment grids are completed twice a year for Y1 - Y6. All data is passed on to the DT Lead, who uses it to inform their action planning.