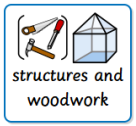
Fulbourn Primary School DT Content Areas and Progression

Content Areas	Research	Design	Evaluate	Textiles	Mechanisms	Cooking and Nutrition	Structures and Woodwork	Electrical Systems
Symbol								

Content Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Research		Explore and take inspiration from existing products	Explore and take inspiration from existing products with personal adjustments	Carry out research of existing products, analysing them against agreed design criteria Use market research to inform and justify design decisions	Carry out detailed research of existing products, analysing them against agreed design criteria Use market research to inform and justify and influence design decisions	Critically analyse existing products based on their own design criteria	Critically analyse existing products based on their own design criteria, considering the needs of the consumer
Design		Design and produce a product according to given design criteria (ranging across visual appeal and functionality) Produce products intended to appeal to users other than themselves (eg.. a friend or family member)	Design and produce a product according to given design criteria (ranging across visual appeal and functionality) Produce products intended to appeal to users other than themselves (eg.. a friend or family member)	With guidance, agree on design criteria based on a design brief Build working prototypes for their ideas to inform the design process Communicate ideas through annotated sketches, cross-sectional and exploded diagrams, with	With guidance, agree on design criteria based on a design brief Build working prototypes for their ideas to inform the design process, considering where to make future improvements Communicate ideas through annotated,	Create individual and detailed design criteria based on a design brief Communicate ideas through scaled drawings, with accurate measurements	Create individual and detailed design criteria based on a design brief Communicate ideas through scaled drawings, with accurate measurements and a list of appropriate resources/ materials needed

		Draw what they would like to create, labelling the materials and listing the equipment they plan to use Communicate ideas orally and through drawings, templates, mock-ups, and where appropriate, IT	Draw what they would like to create, labelling the materials and listing and labelling the equipment they plan to use on specific areas Communicate ideas through drawings, templates, mock-ups, and where appropriate, IT	estimates for dimensions	detailed sketches, cross-sectional and exploded diagrams, with appropriate estimates for dimensions		
Evaluate		Comment on the success of a product according to the design criteria and suggest what they might change for next iteration Can make a simple judgement about their products against some individual design criteria	Comment on the success of a product according to the design criteria and consumer satisfaction, and suggest what they might change for next iteration Can make a judgement about their products against increased individual design criteria	Comment on the success of a product according to the design criteria and draw diagrams to communicate improvements for the next iteration Evaluates their product and ideas against all design criteria, including suggestions for improvement that refer to specific design criteria Understand how key events and individuals in design and technology have helped shape the world	Comment on the success of a product according to the design criteria and draw accurate diagrams to communicate improvements for the next iteration Evaluates their product and ideas against all design criteria in depth, including suggestions for improvement that refer to specific design criteria Understand how key events and individuals in design and technology have helped shape the world	Reflect on their chosen design criteria Write explanations, accompanied by diagrams where appropriate, of specific problems encountered during the design process and explain how these problems can be solved for the next iteration Evaluates their product and ideas against design criteria, including suggestions for improvement that refer to specific design criteria and making improvements as the product is being developed.	Reflect critically on their chosen design criteria Write explanations, accompanied by diagrams where appropriate, highlighting successes and specific problems encountered during the design process and explain how these problems can be solved for the next iteration Evaluates their product and ideas against design criteria, including suggestions for improvement that refer to specific design criteria and making improvements as the product is being developed.
Developing Skills and Techniques - Making							
Making		Select from and use a range of tools and	Select thoughtfully from and use a range of tools	Select from and use a wider range of tools and equipment to	Select from and use a wider range of materials and	Begin to consider and why certain components/ materials	Consider and justify why certain components/ materials

		equipment to perform practical tasks Begin to select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	and equipment to perform practical tasks Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	perform practical tasks accurately. Begin to 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.	components, including construction materials, textiles and ingredients, according to their functional, properties and aesthetic qualities.	are the most suitable for the design brief	are the most suitable for the design brief
Textiles		Use embroidery thread and an embroidery needle to join pieces of fabric together with running stitch Shape textiles using templates	Use embroidery thread and an embroidery needle with increased independence to join pieces of fabric together with running stitch Shape textiles using templates	Use thread and a needle to join pieces of fabric together with a running stitch or back-stitch, and tie off the thread securely once finished Use a template to cut an accurately sized and shaped piece of fabric Understand the need for a seam allowance	Use thread and a needle to join pieces of fabric together with a running stitch and back-stitch, and tie off the thread securely and obscurely once finished Use a template to measure and cut an accurately sized and shaped piece of fabric Understand the need for a seam allowance	Use a seam allowance to create a product Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration)	Use a seam allowance to create a product and explain why this is important Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration)
Mechanisms		Explore and begin to use mechanisms - levers, sliders, wheels and axles - in products	Explore and use mechanisms - levers, sliders, wheels and axles - in products	Explore and use mechanisms - levers, sliders, wheels and axles - in products	Explore and use mechanisms with increased understanding of purpose - levers, sliders, wheels and axles - in products	Explore and use mechanisms such as pulleys or cams in products, and modify the mechanism to best meet design criteria Understand and use a variety of mechanical systems (cams, pulleys and gears)	Explore and use mechanisms such as pulleys or cams in products, and modify the mechanism to best meet design criteria Understand and use mechanical systems (cams, pulleys and gears) and explain the differences between and purpose of each system

Cooking and Nutrition		Wash hands well before preparing food and explain why this matters Use the basic principles of a healthy and varied diet to prepare dishes with support Understands where a range of food items come from, including the farming of crops and the origins of animal-based products Pour out appropriate amounts of liquids with support With assistance, weigh out appropriate amounts of food ingredients With assistance, safely chop and peel fruits and vegetables	Wash hands well before preparing food and explain why this matters Use the basic principles of a healthy and varied diet to prepare dishes Understands where a range of food items come from, including the farming of crops and the origins of animal-based products Pour out appropriate amounts of liquids With assistance, weigh out appropriate amounts of food ingredients accurately With assistance, safely chop and peel fruits and vegetables	Wash hands well before, during and after preparing food and explain why this matters Use the basic principles of a healthy and varied diet to prepare a range of dishes Independently pour out appropriate amounts of liquids With assistance, weigh out appropriate amounts of food ingredients With assistance, safely chop and peel fruits and vegetables	Use the basic principles of a healthy and varied diet to prepare more complex dishes Independently pour out appropriate amounts of liquids with increasing accuracy Accurately weigh out appropriate amounts of food ingredients Safely chop and peel fruits and vegetables	Clean cooking equipment to a good standard of hygiene, ready for use again Prepare work surfaces for hygienic cooking Carefully control the temperature of a heat source while cooking Manage the timings of cooking with multiple heat sources for a single meal Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed	Prepare work surfaces thoroughly for hygienic cooking Manage the timings of cooking with multiple heat sources for a single meal using appropriate equipment Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed Use seasonality to inform research and design decisions
Structures and Woodwork		With assistance, use a saw and a hand-drill on wood Use glue and card to join small pieces of wood Explain how structures can be made stronger, stiffer or more stable	With assistance, use a saw and a hand-drill on wood Use glue and card to join pieces of wood Explain in detail how structures can be made stronger, stiffer or more stable	Design products that rely on an understanding of the stability of frame structures, including weight distribution and the use of diagonal rods for extra stability. Design products that rely on an understanding of nets to produce 3D shapes from 2D materials	Design products that rely on an understanding of the stability of frame structures, including weight distribution and the use of diagonal rods for extra stability. Design products that rely on an understanding of nets to produce 3D shapes from 2D materials	Independently and safely use a file or sandpaper to finish a cut piece of wood Modify the faces and dimensions of simple nets to better meet design criteria Apply their understanding of how to strengthen, stiffen and reinforce	Independently and safely use a file and sandpaper to finish a cut piece of wood Accurately modify the faces and dimensions of simple nets to better meet design criteria Apply their understanding of how to strengthen, stiffen and reinforce increasingly complex

				Develop their understanding of how to strengthen, stiffen and reinforce increasingly complex structures Join pieces of wood using a hot glue gun. Use card triangles to reinforce corner joints. Independently and safely begin to use a hand-saw to follow a marked line on a piece of wood for an accurate cut	Demonstrate their understanding of how to strengthen, stiffen and reinforce increasingly complex structures based on existing models Independently and safely use a hand-saw to follow a marked line on a piece of wood for an accurate cut	increasingly complex structures	structures and adapt existing models during the process
Electrical Systems				Design and build a series circuit with multiple components, including a switch	Accurately design, annotate and build a series circuit with multiple components, including a switch	Design and build a parallel circuit with multiple components, including self-built switches that are designed to meet specific design criteria	Understanding when a series or parallel circuit would be more effective in a final product and make a decision based on this

Strong progress in DT is supported by the repeated practice of key skills, with expectations in the following areas increasing as children progress through the curriculum:

- Accuracy and safety with tools
- Clarity and detail in communicating ideas
- Application of key knowledge of food and technology
- Objective and critical reflection when evaluating their own work

As such, these objectives are additive – children are expected to meet all objectives from the previous phases, plus the new objectives in their current phase.