Thaxted Primary School
Design and Technology Progression of Skills EYFS – Year 6

Intent

Our D&T curriculum is rooted in our school vision 'Together, learning for life because the dreams of today are the future of tomorrow.' The world is changing faster than we can ever imagine and with fast-paced technological advances our children will see great changes and face tremendous challenges. Our school values and principles nurture our children to become the 'future of tomorrow' equipped with life-long skills and a growth mindset. Within design technology, we would like the children to learn to use their 6Rs and to develop **creativity**, **competence** to do tasks well, and **communication**.

Through our curriculum cycles, the children become competent (develop mastery) in a range subjects and use the skills and knowledge they have learned to make links and develop depth to their understanding. STEM, which stands for Science, Technology including digital technologies, engineering and Maths is about helping children develop the technical, creative, and critical thinking skills they need to be part of an innovative future. We encourage children to become innovators and risk takers and 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.

Implementation

Design and Technology is a crucial part of school life and learning and it is for this reason that as a school we are dedicated to the teaching and delivery of a high-quality Design and Technology curriculum. This is implemented through:

- A well thought out, whole school, 4 year cycle of the DT curriculum which allows for progression across year groups in all areas of DT (textiles, Construction and Nutrition)
- Well planned and resourced projects providing children with a hands-on and enriching experience
- A range of skills being taught ensuring that children are aware of health and safety issues related to the tasks undertaken
- Each project from Year 1 to Year 6 addressing the principles of designing, making, and evaluating and incorporating relevant technical knowledge and understanding in relevant contexts.
- Pupils being introduced to specific designers, chefs, nutritionists, etc. helping to engender an appreciation of human creativity and achievement and increase the cultural capital from which they can draw in the future.

Impact

Children will have clear enjoyment and confidence in Design and Technology that they will then apply to other areas of the curriculum. Through carefully planned and implemented learning activities the pupils develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They gain a firm foundation of knowledge and skills to see them equipped to take on further learning in Secondary School.

By the time children leave our school they will demonstrate:

- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge and skills accurately.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically
- A passion for the subject.

Characteristics of a Designer:

We believe that children who excel in DT have these essential characteristics:

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.

Overarching skill	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles							
Explore/Technical knowledge	Recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.			Research criteria to inform the design of a product that is fit for purpose	Research criteria to inform the design of a functional, product that is fit for purpose	Research criteria to inform the design of a functional and appealing product that is fit for purpose, aimed at particular groups	Research criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individual of groups
Design	Participate in small groups, class and one to-one discussions, offering their	Generate, and communicate their ideas through talking, drawing,	Generate, develop, model and communicate their ideas through talking,	Develop, model and communicate their ideas through discussion,	Generate develop, model and communicate their ideas through	Develop, model and communicate their ideas through discussion,	Generate, develop, model and communicate their ideas through

	own ideas, using recently introduced vocabulary Offer explanations for why things might happen	templates and mock-ups	drawing, templates, mockups and, where appropriate, information and communication technology	annotated sketches and prototypes	discussion, annotated sketches and prototypes	annotated sketches, prototypes, and computer-aided design	discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design
	Design an appealing product for themselves and other users based on design criteria.		Design purposeful functional, appealing products for themselves and other users based on design criteria				
Make	Safely use and explore a variety of materials, tools and techniques, including scissors, paint brushes and cutlery	Select from and use a range of materials and components	Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	Select from a range of materials and components, including construction materials and textiles according to their functional properties	Select from and use a range of materials and components, including construction materials, and ingredients, according to their functional properties	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		Explore a range of existing products	Explore and evaluate a range of existing products	Investigate a range of products	Investigate and begin to analyse a range of products	Investigate and analyse a range of products	Investigate and analyse a range of existing products
	Share their creations, explaining the	Evaluate their ideas against design criteria	Evaluate their ideas and	Evaluate their ideas and products against	Evaluate their ideas and products against	Evaluate and develop their ideas and	Evaluate and refine their ideas and products

	process they have used		products against design criteria	their own design criteria and consider the views of others to improve their work	their own design criteria and consider the views of others to edit improve their work	products against their own design criteria and consider the views of others to edit improve their work	against their own design criteria and consider the views of others to edit improve their work
						Understand how key events and individuals in design and technology have helped shape the world	Analyse the work of past and present professionals and others to develop and broaden their understanding
Vocabulary	joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish			fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance		seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings,	
Construction							
Explore/Technical knowledge	Recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes			Research criteria to inform the design of a product that is fit for purpose	Research criteria to inform the design of a functional, product that is fit for purpose	Research criteria to inform the design of a functional and appealing product that is fit for purpose, aimed at particular groups	Research criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular

							individual of groups
		Build structures, exploring how they can be made stronger	Build structures, exploring how they can be made stronger, stiffer and more stable	Apply their understanding of how to strengthen structures	Apply their understanding of how to strengthen and reinforce structures	Apply their understanding of how to strengthen and reinforce more complex structures	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.	Explore mechanisms (for example, levers, sliders, wheels and axles).	Explore and use mechanism (for example, levers, sliders, wheels and axles), in their products	Begin to understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages		Develop their understanding and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages	Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages
	Knows how to operate simple equipment, e.g. turns on CD player and uses remote control.			Knows how to operate simple equipment, e.g. turns on CD player and uses remote control.		Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors)	
	Knows that information can be retrieved from computers Completes a simple program on a computer. Uses ICT hardware to interact with age appropriate computer software.			Apply their understanding of computing to program their products		Apply their understanding of computing to program, monitor and control their products	
Design	Participate in small groups, class and one-to-one	Generate, and communicate their ideas through talking,	Generate, develop, model and communicate	Develop, model and communicate their ideas	Generate develop, model and communicate	Develop, model and communicate their ideas	Generate, develop, model and communicate

	discussions, offering their own ideas, using recently introduced vocabulary Offer explanations for why things might happen	drawing, templates and mock-ups	their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology	through discussion, annotated sketches and prototypes	their ideas through discussion, annotated sketches and prototypes	through discussion, annotated sketches, prototypes, and computer-aided design	their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design
	Design an appealing product for themselves and other users based on design criteria.		Design purposeful functional, appealing products for themselves and other users based on design criteria.				
Make	Use a range of small tools, including scissors, paint brushes Begin to show accuracy and care when drawing (Creating with Materials ELG)	Select from and use a range of tools and equipment to perform practical tasks	Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).	Select from a 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 tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately	
	Safely use and explore a variety of materials, tools and techniques, including scissors, paint	Select from and use a range of materials and components	Select from and use a wider range of materials and components, including construction	Select from a range of materials and components, including construction materials and	Select from and use a range of materials and components, including construction materials, and	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	

	brushes and cutlery		materials, textiles and ingredients, according to their characteristics	textiles according to their functional properties	ingredients, according to their functional properties		
	Build structures, exploring how they can be made stronger		Build structures, exploring how they can be made stronger, stiffer and more stable	Apply their understanding of how to strengthen structures	Apply their understanding of how to strengthen and reinforce structures	Apply their understanding of how to strengthen and reinforce more complex structures	Apply their understanding of how to strengthen, stiffen and reinforce more complex structure
Evaluate	Explore a range of existing products		Explore and evaluate a range of existing products	Investigate a range of products	Investigate and begin to analyse a range of products	Investigate and analyse a range of products	Investigate and analyse a range of existing products
	Share their creations, explaining the process they have used	Evaluate their ideas against design criteria	Evaluate their ideas and products against design criteria	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Evaluate their ideas and products against their own design criteria and consider the views of others to edit improve their work	Evaluate and develop their ideas and products against their own design criteria and consider the views of others to edit improve their work	Evaluate and refine their ideas and products against their own design criteria and consider the views of others to edit improve their work
							Understand how key events and individuals in design and technology have

							helped shape the world
Vocabulary	cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder			shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision		frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent	
Nutrition							
Explore/Technical knowledge	Understand the importance of healthy food choices (Managing Self ELG)	Understand where food comes from. Plants or animals.	Understand that food has to be farmed, grown elsewhere (e.g. home) or caught	Know where and how a variety of ingredients are grown, reared, caught and processed		Understand seasonality – that seasons may affect the food available.	
Make	Use the basic principles of a healthy and varied diet to prepare dishes			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	
Vocabulary	fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients			name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet		ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	