'Roots to Grow and Wings to Fly'

Curriculum Progression Document

Design Technology

Contents

Curriculum Intent

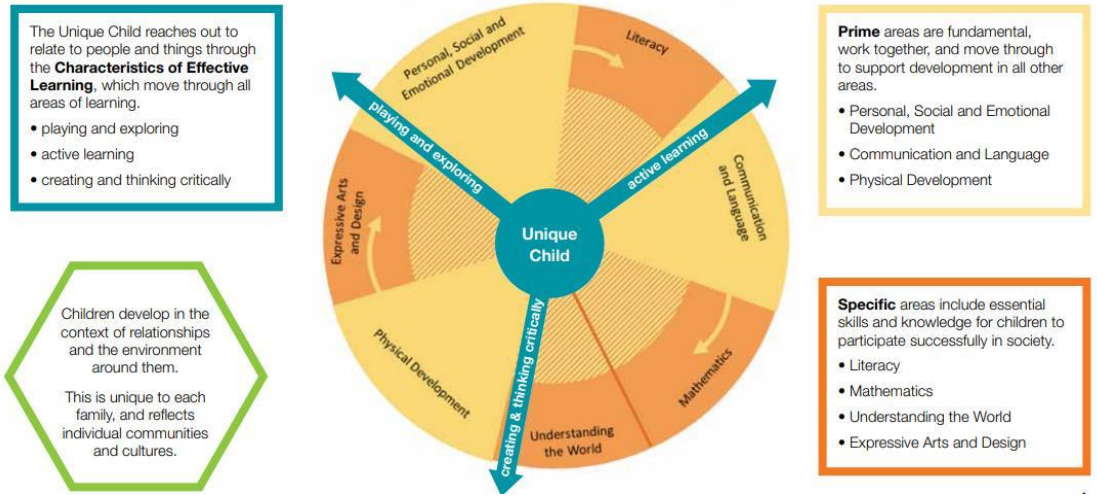
Intent - It is the intent of St. Bartholomew's CE Primary School for a high quality Design and Technology curriculum to be taught across all year groups, through well planned and resourced projects and experiences. Each year, all children will be taught at least one Design and Technology topic per term; one of which will be related to Cooking and Nutrition. Design and Technology projects will often be made cross curricular - linking to other subjects taught.

This vision is achieved by:

- Following the National Curriculum using planning from Kapow Primary.
- Ensuring every Design and Technology project will clearly follow the design process: research, design, prototype, redesign, final product and evaluation.
- Strongly embedding our key skills. It is an inspiring, rigorous and practical subject, requiring collaboration, problem solving, self-management, communication, creative thinking and evaluation.
- Designing and making products that solve real and relevant problems within a variety of contexts.

Design Technology in the Early Years Foundation Stage

Each area of the EYFS curriculum has an **Early Learning Goal**, which is the standard that a child is expected to achieve by the end of their reception year. The ELG (Early Learning Goals) covers all of the 7 areas of learning as specified in the Early Years Foundation Stage Curriculum.



The following link to the teaching and learning of Design Technology in our EYFS:

ELG 16: Expressive arts and design: Exploring and using media and materials
Children at the expected level of development will: • Children sing songs, make music and dance, and experiment with ways of changing them. • Children safely use and explore a variety of materials, tools and techniques. • They experiment with colour, design, texture, form and function.

EELG 16: Expressive arts and design: Being imaginative
Children at the expected level of development will: • Children use what they have learnt about media and materials in original ways. • They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

Design Technology and the National Curriculum: Key Stage One

Key stage 1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

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

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

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

Design Technology and the National Curriculum: Key Stage Two

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

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.
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Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 2

- 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.

Whole School Programme of Study

KS2 YEAR A / C (2024-25 & 2026-27)	AUTUMN 2	SPRING 2	SUMMER 2
THEME_	Battle, Blitz and Victory	Heroes and Heroines	On the March!
EYFS	*Structures – Junk Modelling* Design, make, Evaluate	*Food - Soup* Cooking and Nutrition	*Textiles - Bookmarks* Design, make, Evaluate
KS1	*Mechanisms - Making A Moving Storybook* Design, make, Evaluate	*Food - Smoothies* Cooking and Nutrition	*Textiles - Puppets* Design, make, Evaluate
LKS2	*Textiles - Cushions* Design, make, Evaluate	*Food – Eating Seasonally* Cooking and Nutrition	*Mechanical Structures – Constructing A Castle* Design, make, Evaluate
UKS2	*Textiles - Stuffed Toys* Design, make, Evaluate	*Food – Developing A Recipe* Cooking and Nutrition	*Mechanical Structures - Bridges* Design, make, Evaluate

KS2 YEAR B / D (2025-26 & 2027-28)	AUTUMN 2	SPRING 2	SUMMER 2
THEME	Intrepid Explorers	Fossil Hunting	Local History Topic
EYFS	*Structures – Junk Modelling* Design, make, Evaluate	*Food - Soup* Cooking and Nutrition	*Textiles - Bookmarks* Design, make, Evaluate
KS1	*Mechanisms - Fairground Wheel* Design, make, Evaluate	*Food – Balanced Diet* Cooking and Nutrition	*Structures – Baby Bear's Chair* Design, make, Evaluate
LKS2	*Structures - Pavillions* Design, make, Evaluate	*Food – Adapting A Recipe* Cooking and Nutrition	*Electrical Systems - Torches* Design, make, Evaluate
UKS2	*Structures - Playgrounds* Design, make, Evaluate	*Food – Come Dine With Me* Cooking and Nutrition	*Electrical Systems – Steady Hand Game* Design, make, Evaluate

Design Technology Vocabulary

EYFS Design and Technology and Skills Overview

Knowledge	Vocabulary	Skills
Know that different media can be combined to create new effects.	Paper Card Wood Fold Glue	Manipulates material to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using. Chopping with a blunt knife Mashing

KS1	**Cooking and Nutrition** Preparing fruit and vegetables	**Textiles** Templates and joining	**Mechanisms** Sliders and Levers. Wheels and Axels.	**Structure** Freestanding Structures
	- names of fruit and vegetables - names of equipment - names of utensils sensory vocabulary, e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard	- names of existing products - names of fabrics - names of tools - names of joining and finishing techniques template, pattern pieces, mark out, join, decorate, finish	- names of tools used - names of equipment used - names of materials used slider, lever, pivot, slot, bridge/guide	cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved

	flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients planning, investigating, tasting, arranging, popular, design, evaluate, criteria	features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function	pull, push, up, down, straight, curve, forwards, backwards vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism design, make, evaluate, purpose, ideas, user, criteria, function, functional, design criteria, product	metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function
KS2	**Cooking and Nutrition** Healthy and varied diet	**Textiles** 2D to 3D product	**Mechanical Systems and Electrical Systems** Levers and Linkages. Simple circuits and switches	**Structure** Shell structures
	- names of products - names of equipment - names of utensils - names of techniques - names of ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury	- names of fabrics fabric, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated	mechanism, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear, rotary, oscillating, reciprocating series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb,	shell structure, three-dimensional 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,

	hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied die planning, design criteria, purpose, user, annotated sketch, sensory evaluations	sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces	bulb holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device user, purpose, function, prototype, design criteria, innovative, appealing, design brief	corrugating, ribbing, laminating font, lettering, text, graphics, decision evaluating, design brief, design criteria, innovative, prototype

Progression in Design Technology

	EYFS	Year 1
Design	To draw on their own experience to help generate ideas, with support.	To think about how I want my product to look
	To suggest ideas and explain what they are going to do, with support.	To think about what I want my product to do
		To plan out my product before I start making

	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Can they think of ideas and plan what to do next?	Can they show that their design meets a range of requirements?	Can they come up with at least one idea about how to create their product?	Can they come up with a range of ideas after they have collected information?	Can they use a range of information to inform their design?
	Can they choose the best tools and materials? Can they give a reason why these are best?	Can they put together a step-by-steo plan which shows the order and also what equipment and tools they need?	Do they take account of the ideas of others when designing?	Do they take a user's view into account when designing?	Can they use market research to inform plans?
	Can they describe their design by using pictures, diagrams, models and words?	Can they describe their design using accurately labelled sketch and words?	Can they produce a plan and explain it to others?	Can they produce a detailed step-by-step plan?	Can they work within constraints?
		How realistic is their plan?	Can they suggest some improvements and say what was good and not so good about their original design?	Can they suggest some alternative plans and say what the good points and drawbacks are about each?	Can they follow and refine their plan if necessary?
					Can they justify their plan to someone else?
					Do they consider culture and society in their designs?

	EYFS	Year 1
Make	To explore new techniques, e.g. joining and cutting.	To select tools and techniques needed to shape, assemble and join materials
	To begin to use small tools safely e.g. scissors and cutlery.	To select from a range of materials according to their characteristics
	To begin to assemble, join and combine materialsand components together using a variety of temporary methods e.g. glue or masking tape.	To explore objects and designs to identify likes and dislikes of the designs

	Year 2	Year 3	Year 4	Year 5	Year 6
Make	Can they join things (materials/components) together in different ways?	Can they use equipment and tools accurately?	Can they tell if their finished product is going to be good quality?	Can they explain why their finished product is going to be of good quality?	Can they use tools and materials precisely?
			Are they conscience of the need to produce something that will be liked by others?	Can they explain how their product will appeal to the audience?	Do they change the way they are working if needed?
			Can they show a good level of expertise when using a range of tools and equipment?	Can they use a range of tools and equipment expertly?	

	EYFS	Year 1
Evaluate	To share my creation and explain what I did	To explore objects and designs to identify likes and dislikes of the designs
	To say what I like about my work	To give likes and dislikes of my own design
	To refine my ideas, making improvements.	

	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate	What went well with their work?	What did they change which made their design even better?	Have they thought of how they will check if their design is successful?	Do they keep checking that their design is the best it can be?	How well do they test and evaluate their final product?
	If they did it again, what would they want to improve?		Can they begin to explain how they can improve their original design?	Do they check whether anything could be improved?	Is it fit for purpose?
			Can they evaluate their product, thinking of both appearance and the way it works?	Can they evaluate appearance and function against the original criteria?	What would improve it?
					Would different resources have improved their product?
					Would they need more or different information to make it even better?

	EYFS	Year 1
Cooking and Nutrition	To learn how to select and use appropriate fruit and vegetables, processes and tools.	To know some healthy and unhealthy foods
	To have an awareness of basic food handlinghygienic practises and personal hygiene. E.g.washing hands.	To assemble or cook healthy ingredients with assistance
	To begin to learn about Harvest and understandwhere food comes from (food origin).	I can name some foods that come from the farm
		To know I need to wash my hands before preparing food and that equipment must be washed up afterwards

	Year 2	Lower KS2	Upper KS2
Cooking and Nutrition	To use the basic principles of a healthy and varied diet to prepare dishes	To design meals that represent a healthy, balanced diet	To understand what constitutes a healthy diet (including understanding calories and other nutritional content).
	To assemble and cook healthy ingredients	To assemble or cook healthy ingredients, adapting recipes to meet my needs	To prepare and cook a range of healthy meals using a range of cooking techniques
	To understand where food comes from.	To understands foods that are grown in this country and those that come from different regions and climates around the world	To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
		To plan recipes thinking about the cost of different ingredients	To consider affordability during the planning of a meal
	To prepare ingredients hygienically using appropriate utensils.	To consider safety and hygiene when working with food	To understand the importance of correct storage and handling of ingredients

Assessment

• D&T exercise books (combined with Art) are to be used by each year group within key stage one and two. Teachers are to use photographs to record evidence of 3D work, or work too large to fit in D&T books. D&T exercise books will be regularly scrutinised to ensure children are being challenged, making good progress and to track whether children will meet National Curriculum expectations at the end of the key stage.

• Individual teachers will use the framework to evaluate the quality of their own teaching and the D&T Lead will use the framework to monitor and evaluate the quality of planning, teaching and learning throughout the school.

• D&T Progression Framework and Kapow Primary end of unit evaluations will be used to inform assessment and to report children's progress to parents towards the end of the Summer Term. Teachers will fill in an assessment grid at the end of each project indicating which children met expectations and those significantly above or below. This will be used to inform future planning.

• Children will keep sketches, plan drawings, paper mock ups, research and evaluations in D&T exercise books. These will be used for assessment purposes and monitoring progression. Children will be encouraged to make personal assessments of their own work through evaluating activities and identifying what they need to improve.

SEND

All aspects of DT will be taught in such a way as to include all children regardless of their gender, race, ethnicity, religion, physical ability or individual needs.

The schools SEND policy extends into DT. All staff teaching DT will be aware of children's individual needs and scaffold tasks according to needs just as they would in any other subject, enabling all pupils to make good progress.