Corpus Christi Catholic Primary School

Design and Technology HANDBOOK

Design and Technology CURRICULUM: INTENT: All of our children will have consistent access to a broad, balanced and high quality Design and Technology curriculum which will:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasing 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
- Enable pupils to critique, evaluate and test their ideas and products and the work of others
- Help pupils to understand and apply the principles of nutrition and learn how to cook

Design and Technology at Corpus Christi offers a coherently planned sequence of lessons that have progressively covered the knowledge, understanding and skills required in the National Curriculum. Design and Technology at Corpus Christi aims to inspire children through a broad range of practical experiences to create innovative designs which solve real and relevant problems within a variety of different contexts. The iterative design process is fundamental and runs throughout the carefully planned units. This iterative process encourages children to identify real and relevant problems, critically evaluate existing products and then take risks and innovate when designing and creating solutions to the problems. As part of the iterative process, time is built in to reflect, evaluate and improve on prototypes using design criteria throughout to support this process. Opportunities are provided for children to evaluate key events and individuals who have helped shape the world, showing the real impact of design and technology on the wider environment and helping to inspire children to become the next generation of innovators.

Design and Technology: CURRICULUM IMPLEMENTATION: POLICY

Design and Technology Together we DREAM, together we learn
AIMS
The national curriculum for Design and Technology aims to ensure that all pupils: **Design** • Can design purposeful, functional, appealing products for themselves and other users based on design criteria • Can research design, and ensure their design is fit for purpose, aimed at particular individuals or groups • Can generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups, cross-sectional and exploded diagrams, prototypes, pattern pieces and where appropriate information and communication technology • Can select from and use a wide range of tools and equipment to perform practical tasks • Can explore, investigate, analyse and evaluate a range of existing products • Can select from a wide range of materials and components • Can evaluate their ideas and products against design criteria and consider the views of others to improve their work • Can understand the work of world designers, and how have they shaped the world we live in today • Can build structures, exploring how they can be made stronger, stiffer and more stable • Can explore and use mechanisms in their products • Can understand the use of electrical systems in their products • Can apply their understanding of computing to program, monitor and control their products • Can understand and apply the principles of a healthy and varied diet • Can prepare and cook a variety of dishes using a range of cooking techniques • Can understand where ingredients come from and how they arrive on our table **At Corpus Christi, our mission statement and the teaching of Jesus is at the centre of all we do.** **We intend to show this through our Design and Technology curriculum:** Give opportunities to DISCOVER new techniques, technologies, products, designs, materials and work by designers. This will enhance, improve, excite and enrich our own Design and Technology work. Teach children to RESPECT each other, equipment and resources used within Design and Technology. To RESPECT the skills of other Designers, both famous and our own peers in school. To discuss work critically but to remember to be respectful with our feedback. Provide experiences to ENTHUSE and excite and develop Design and Technology knowledge and understanding. To undertake new Design and Technology challenges with enthusiasm and to enthuse our peers to enjoy their Design and Technology journey too.

Encourage high ASPIRATIONS in both school and beyond, and applying those aspirations in their Design and Technology work. To seek aspiration from our peers and famous designers, both local designers and world-wide designers. To share our aspirations and knowledge of Design and Technology with others.
Show ways our children can MAKE A DIFFERENCE to themselves, each other and outside, in big and small ways, and use Design and Technology to help them. Encourage children to think how their Design and Technology work can make a difference to others in class, in school, at home, in their local community and nationally.

Design and Technology skills and understanding are built into lessons, following an iterative process. However, this is not to say that this structure should be followed rigidly: it allows for the revision of ideas to become part of good practice and ultimately helps to build a depth to children's understanding. Through revisiting and consolidating skills, our lesson plans and resources help children build on prior knowledge alongside introducing new skills, knowledge and challenge. The revision and introduction of key vocabulary is built into each lesson. This vocabulary is then included in display materials and additional resources to ensure that children are allowed opportunities to repeat and revise this knowledge. CPD and accurate Design and Technology subject knowledge are always provided to allow the teacher and adults working in those lessons to feel confident and supported with the skills and knowledge that they are teaching.

Through these lessons, we intend to inspire pupils and practitioners to develop a love of Design and Technology and see how it has helped shaped the ever-evolving technological world they live in.

STRATEGIES: In order to achieve our aims our school provides:

On site facilities:

- Cardboard, Lego, construction kits/equipment, variety of materials, needles, thread, cookery equipment, aprons, glue, scissors, paints, pastels, variety of paper and collage materials, variety of paper and mark making equipment, clay, printing equipment, non- fiction books, D&T lead, D&T clubs
- iPads, iMacs, laptops
- examples of work produced by famous designers

Off site facilities:

- Support from Rainford High and De La Salle
- Training available to staff from St Helens LA
- Various galleries and museums in local area

Equipment/Resources

The school maintains a range of resources for Design and Technology- paper, cardboard, glue, split pins, wood, saws, paints, pastels, pencils, printing, collage materials, clay, modrock, construction kits, cookery equipment, sewing equipment

Curriculum Provision

EYFS: Early Years Profile – Expressive Arts and Design(links to other areas of the curriculum also -Communication and Language, Writing, Physical Development, Number, Shape, Space and Measures, Self- confidence and Self- awareness, Understanding the World) , Continuous Provision
Y1– Y6: 60 minute Design and Technology lesson per week (alternates with Art and Design termly)
Children follow our school's scheme of work and are continuously assessed against clear learning objectives.

Extra-Curricular Provision

D&T clubs for KS2
Cookery club
Craft club

Additional examples of our commitment to Design and Technology include:

School trips, talks from visitors, entries to competitions, permanent Design and Technology work around school, Rainford Art Exhibition entries, exhibition space in school and in outdoor classroom, specialist teachers from the high school working with children, professional working artists working with children in school on a regular basis

Continuing Professional Development

Teachers and support staff are encouraged to develop their skills and knowledge to enhance the teaching of Design and Technology in school. The Design and Technology Lead provides guidance through training and inset, informal chats, lesson support and observations, learning walks. Support available from specialist Design and Technology teachers in the High Schools and from professional designers.

Reporting

EYFS – half termly events with parents/carers where children's profiles can be viewed by parents and progress discussed.
Verbal reports to parents take place twice a year at Parent's Evening.
Written reports are provided annually.

- All staff are continuously trained so as to ensure that Design and Technology is taught to a high standard
- This high quality teaching is supported through the appropriate funding, resources, timetables and our whole school environment, which is maintained to a high standard and enhances and promotes our teaching and our children's experiences and learning
- Staff plan and deliver weekly high quality Design and Technology lessons
- Staff meet regularly to review the quality of our provision and to refresh, reposition and change as appropriate
- Staff meet regularly to track and review the progress of our children and this high quality formative assessment contributes good rates of progress and high levels of attainment
- Strong parent partnerships and home/school systems contribute the quality of our provision
- Strong partnerships with other cluster schools contribute to the quality of our provision

OUTCOMES

The teaching of all aspects of Design and Technology are consistently good with much outstanding practice.
All of our children develop their enjoyment, knowledge, understanding and skills in Design and Technology and use these successfully across all areas of the curriculum.
All of our children make good progress from their starting point in Design and Technology.

MONITORING EVALUATION REVIEW

The school implements an annual programme of quality assurance which includes:

- Scrutiny of planning
- Assessment
- Lesson Observations
- Learning walks
- Conversations with staff
- Conversations with children
- Consultation with parents

Design and Technology: CURRICULUM IMPLEMENTATION: PLANNING

Our long term planning ensures coverage of the National Design and Technology Curriculum and is responsive to local influences. In order to widen and deepen pupils' essential knowledge, skills, understanding and behaviours, our children continuously return to key concepts and skills in order to gain a deeper and more insightful understanding.

<table>
<tr><th colspan="7">Design and Technology Long Term Planning</th></tr>
<tr><td>EYFS NURSERY/RECEPTION</td><td>Autumn 1</td><td>Autumn 2</td><td>Spring 1</td><td>Spring 2</td><td>Summer 1</td><td>Summer 2</td></tr>
<tr><td></td><td colspan="6">Understanding the World – continuous provision throughout the year</td></tr>
<tr><td>KEY STAGE 1</td><td colspan="6">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, use the basic principles of a healthy and varied diet to prepare dishes ♣ understand where food comes from.</td></tr>
<tr><td>YEAR 1</td><td colspan="2">Fabric Faces</td><td colspan="2">Dips and Dippers</td><td colspan="2">Moving Pictures</td></tr>
<tr><td>YEAR 2</td><td colspan="2">Lighthouse Keepers Lunchbox</td><td colspan="2">Sensational Salads</td><td colspan="2">Fabric Bunting</td></tr>
<tr><td>KEY STAGE 2</td><td colspan="6">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, 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.</td></tr>
<tr><td>YEAR 3</td><td colspan="2">Battery Operated Lights</td><td colspan="2">Seasonal Cooking</td><td colspan="2">Automata Animals</td></tr>
<tr><td>YEAR 4</td><td colspan="2">Mechanical Posters</td><td colspan="2">Edible Gardens</td><td colspan="2">Juggling Balls</td></tr>
<tr><td>YEAR 5</td><td colspan="2">Marbellous Structures</td><td colspan="2">Let's go fly a kite</td><td colspan="2">The Great Bread Bake Off</td></tr>
</table>

YEAR 6	Felt Phone cases		Global Food
Aspects of Outdoor Adventure and Problem Solving Activities are delivered across all terms through Residential, Away Day and Curriculum activities			

Design and Technology CURRICULUM IMPLEMENTATION: PROGRESSION

We have a clear understanding of the progression we aspire for all of our children to make in all areas of Design and Technology.

Corpus Christi Catholic Primary School

Expressive Arts and Design Progress Model for Knowledge and Skills

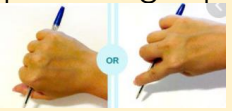
	Links to KS1 curriculum	Minimum Expectations for Reception			Minimum Expectations for Nursery		
PAINTING	Colour matching, altering tint and shade Warm/Cool colours	Colour matching to a specific colour and shade A1 SP2	Add white or black paint to alter tint or shade A1 SP2	Able to mix primary colours to make secondary colours A1 SP2	Able to mix primary colours to make secondary colours A1 SP2	Mix primary colours to appropriate consistency A1 SP2	Use pre-made paints and are able to name colours A1 SP2
	Lines of varying thickness, Dots and lines for pattern/texture. Use a variety of brushes and tools	Can independently select additional tools (stamps, rollers etc) to improve their painting A1 SP2	Can hold a paintbrush using a tripod grip A1 SP2	Can use thin brushes to add detail A1 SP2	Can use thick brushes A1 SP2	Enjoys using hands, feet and fingers to paint A1 SP2	Can hold a paintbrush in the palm of their hand A1 SP2
	Print with a variety of resources	Create patterns or meaningful pictures when printing A1 SP2		Print with small blocks, small sponges, fruit, shapes and other resources A1 SP2	Print with small blocks, small sponges, fruit, shapes and other resources A1 SP2	Print with large blocks and larger sponges A1 SP2	
DRAWING	Children must be exposed to models and be able to identify key features of living things	Draws with detail (bodies with sausage limbs and additional features) A1 SU2	Draws bodies of an appropriate size for what they're drawing A1 SU2	Draws potato people (no neck or body) A1 SU2	Draws potato people (no neck or body) A1 SU2	Draws faces with features and draws enclosed spaces, giving meaning A1 SU2	Makes marks. Draws circles and lines. A1 SU2

	Children draw portraits, detailed pictures, landscapes, buildings and cityscapes	Children are beginning to draw self-portraits, landscapes and buildings/cityscapes A1 SU2		Children are able to draw simple things from memory A1 SU2	Children are able to draw simple things from memory A1 SU2	Children are able to draw things that they observe A1 SU2	
COLLAGE	Joins items which have been cut, torn or glued	Join items in a variety of ways – Sellotape, masking tape, string, ribbon A2 SP2	Join items with glue or tape A2 SP2	Use glue sticks and glue spatulas independently A2 SP2	Use glue sticks and glue spatulas independently A2 SP2	Use glue spatulas with support A2 SP2	Use glue sticks with support A2 SP2
	Improve models by adding texture	Knows how to secure boxes, toilet rolls, decorate bottles A2 SP2	Knows how to improve models (scrunch, twist, fold, bend, roll) A2 SP2	Adds other materials to develop models (tissue paper, glitter…) A2 SP2	Adds other materials to develop models (tissue paper, glitter…) A2 SP2		
	Make collages and mosaics using different materials Weaves items	Improved vocab – flexible, rigid A2 SP2	Smooth, rough, bendy, hard Weave (fine motor) A2 SP2	Additional textures – children describe as smooth or bumpy Beginning to weave (gross motor) A2 SP2	Additional textures – children describe as smooth or bumpy Beginning to weave (gross motor) A2 SP2	Product is all one texture A2 SP2	
SCULPTURE	Use a variety of natural, recycled and manufactured materials to sculpt	Builds models which replicate those in real life. Can use a variety of resources – loose part play SP1 SU2		Builds simple models using walls, roofs and towers. SP1 SU2	Builds simple models using walls, roofs and towers. SP1 SU2	Builds walls to create enclosed spaces SP1 SU2	Builds towers by stackings objects SP1 SU2
	Use a variety of techniques and shapes to sculpt	Makes something with clear intentions SP1 SU2	Makes something that they give meaning to SP1 SU2	Manipulates clay (rolls, cuts, squashes, pinches, twists…) SP1 SU2	Manipulates clay (rolls, cuts, squashes, pinches, twists…) SP1 SU2	Makes marks in clay SP1 SU2	Explores clay SP1 SU2
INDEPENDENCE	Reviews own work and makes improvements	Begins to paint on other materials – card, fabric, clay SP1 SU1		Chooses paper from a wide selection and of which is appropriate to the task (black paint	Chooses paper from a wide selection and of which is appropriate to the task (black paint	Choose a piece of paper from a selection of 2/3 colours SP1 SU1	One piece of paper provided to child SP1 SU1

			on white paper, white paint on black…) SP1 SU1	on white paper, white paint on black…) SP1 SU1		
		Returns to work on another occasion to edit and improve SP1 SU1	Creates their own piece of art and begins to self-correct any mistakes SP1 SU1	Creates their own piece of art and begins to self-correct any mistakes SP1 SU1	Creates their own piece of art and gives meaning SP1 SU1	Creates their own piece of art SP1 SU1
	To develop and share their ideas, experiences and imagination	Creates collaboratively, sharing ideas with peers and developing skills further SP1 SU1	Works with a friend, copying ideas and developing skills together Sp1 SU1	Works with a friend, copying ideas and developing skills together SP1 SU1	Children work independently to develop basic skills SP1 SU1	
RESOURCES (NOT LIMITED TO)	Children are exposed to using different materials	Watercolour paints, pastels, string, marbles, cutlery, whisks, hole punches, staplers (supervise), cotton buds, cotton wool, foil, art straws	Thick and thin paintbrushes, thin chalks, thin wax crayons, thin pencils, thin pencil crayons, variety of powder paints, clay, charcoal, highlighters, tracing paper, transient materials, rollers, sculpting tools for playdough/clay, sponges, scissors, IWB	Thick and thin paintbrushes, thin chalks, thin wax crayons, thin pencils, thin pencil crayons, variety of powder paints, clay, charcoal, highlighters, tracing paper, transient materials, rollers, sculpting tools for playdough/clay, sponges, scissors, IWB	Palm brushes, Large chalks, Whiteboard pens, chunky wax crayons, chunky pencil crayons, pencils, Pre-mixed paint, Primary powder paint colours, glue sticks, glue spatulas, PVA glue, Felt tips, card, paper, embellishments	

Using tools	Use scissors to cut fabric	Use scissors to cut around a shape on paper A2 SP2 SU1 SU2	Use scissors to cut paper in half A1 A2 SP2 SU1 SU2	Use one-handed tools, for example, making snips in paper with scissors A1 A2 SP2 SU1 SU2	Use one-handed tools, for example, making snips in paper with scissors A1 A2 SP1 SP2 SU1 SU2	Explore a range of tools – spoons, spades, paintbrushes etc A1 A2 SP1 SP2 SU1 SU2	Pour from one container to another A1 A2 SP1 SP2 SU1 SU2

	Use a knife and fork independently	Cut using a knife A2 SP2	Spread using a knife A2	Use knife to cut soft food like banana and strawberry A2 SP2	Spoon cereal from container to dish with little spilling A2 SP2	Stab food using a fork A2 SP2	Use a spoon to pick up food and put it in mouth A2 SP2

Cutting tools	Cuts complex shapes, such as figures.	Cuts circle shape (a circle of 6inch in diameter, within ½ from the drawn line, improving to about ¼ inch) SP1 SP2 SU1 SU2	Cuts curved line (a 1/4inch curved line, within 1/4inch from the line drawn) SP1 SP2 SU1 SU2	Cuts straight line (within ½ inch from the drawn line, improving in accuracy) A1 SP1 SP2 SU1 SU2	Snips paper moving forward Uses helping hand to hold and help to guide the paper (non-dominant hand) A1 SP1 SP2 SU1 SU2	Opens/closes blades (not ready to use them on paper yet) Starts snipping paper (not moving forward with the scissors but making small snips) A1 SP1 SP2 SU1 SU2	Holds scissors, often with both hands, learning to open and close the blades A1 SP1 SP2 SU1 SU2
Pencil skills	Dynamic tripod grasp 	Static tripod grasp  A1 A2 SU1		4 finger grasp  A1 A2 SU2	4 finger grasp  SU1 SU2	Digital pronate grasp  SP1 SP2	Palmer grasp  A1 A2
Resources (not limited to)	Children are exposed to using different material	Socks, shoes, coats, buttons, laces, pedal bikes, balance beams, scissors, cutlery, whisks, hole punches t-shirt, jumper, trousers, balance bikes, pedal bikes, balls, balance beam, one handed tool, scissors, knife, thick and thin paintbrushes, chalks, crayons, pencils			t-shirt, jumper, trousers, balance bikes, pedal bikes, balls, balance beam, one handed tool, scissors, knife, thick and thin paintbrushes, chalks, crayons, pencils Coats, trousers, shoes, balance bikes, balls, containers, jugs, spoons, forks, spades, trowels, palm brushes, chunky chalks,		

			whiteboard pens, chunky wax crayons, chunky pencils

Level Expected at the End of EYFS

We have aimed to select the Early Learning Goals that link most closely to the Design and Technology National Curriculum.

Expressive Arts and Design (Exploring and Using Media and Materials)

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Expressive Arts and Design (Being Imaginative)

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, art, music, dance, role play and stories.

Physical Development (Moving and Handling)

Children handle equipment and tools effectively, including pencils for writing.

Key Stage 1 National Curriculum Expectations

Design
Pupils should be taught to:

- 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
Pupils should be taught to:

- 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
Pupils should be taught to:

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

Technical Knowledge
Pupils should be taught to:

- 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
Pupils should be taught to:

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

Key Stage 2 National Curriculum Expectations

Design

Pupils should be taught to:

- 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

Pupils should be taught to:

- 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

Pupils should be taught to:

- 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

Pupils should be taught to:

- 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.

Design	**KS1 Design and Technology National Curriculum** 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. 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]. Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Children can: a use their knowledge of existing products and their own experience to help generate their ideas; b design products that have a purpose and are aimed at an intended user; c explain how their products will look and work through talking and simple annotated drawings; d design models using simple computing software; e plan and test ideas using templates and mock-ups; f understand and follow simple design criteria; g work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children can: a identify the design features of their products that will appeal to intended customers; b use their knowledge of a broad range of existing products to help generate their ideas; c design innovative and appealing products that have a clear purpose and are aimed at a specific user; d explain how particular parts of their products work; e use annotated sketches and cross-sectional drawings to develop and communicate their ideas; f when designing, explore different initial ideas before coming up with a final design; g when planning, start to explain their choice of materials and components including function and aesthetics; h test ideas out through using prototypes;	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children can: a use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; b use their knowledge of a broad range of existing products to help generate their ideas; c design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; d explain how particular parts of their products work; e use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; f generate a range of design ideas and clearly communicate final designs;

		i use computer-aided design to develop and communicate their ideas (see note on p. 1); j develop and follow simple design criteria; k work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.	g consider the availability and costings of resources when planning out designs; h work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.

Make	KS1 Design and Technology National Curriculum 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 making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children can: Planning a with support, follow a simple plan or recipe; b begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; c select from a range of materials, textiles and components according to their characteristics; Practical skills and techniques d learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; e use a range of materials and components, including textiles and food ingredients; f with help, measure and mark out; g cut, shape and score materials with some accuracy; h assemble, join and combine materials, components or ingredients; i demonstrate how to cut, shape and join fabric to make a simple product; j manipulate fabrics in simple ways to create the desired effect; k use a basic running stich;	KS2 Design and Technology National Curriculum 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 making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. They 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. Children can: Plan a with growing confidence, carefully select from a range of tools and equipment, explaining their choices; b select from a range of materials and components according to their functional properties and aesthetic qualities; c place the main stages of making in a systematic order; Practical skills and techniques d learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; e use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; f with growing independence, measure and mark out to the nearest cm and millimetre; g cut, shape and score materials with some degree of accuracy;	KS2 Design and Technology National Curriculum 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 making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. They 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. Children can: Planning a independently plan by suggesting what to do next; b with growing confidence, select from a wide range of tools and equipment, explaining their choices; c select from a range of materials and components according to their functional properties and aesthetic qualities; d create step-by-step plans as a guide to making; Practical skills and techniques e learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; f independently take exact measurements and mark out, to within 1 millimetre; g use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; h cut a range of materials with precision and accuracy; i shape and score materials with precision and

	l cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; m begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.	h assemble, join and combine material and components with some degree of accuracy; i demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; j join textiles with an appropriate sewing technique; k begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.	accuracy; j assemble, join and combine materials and components with accuracy; k demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; l join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; m refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.

Evaluate	KS1 Design and Technology National Curriculum 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. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria. Children can: a explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; b explain positives and things to improve for existing products; c explore what materials products are made from; d talk about their design ideas and what they are making; e as they work, start to identify strengths and possible changes they might make to refine their existing design; f evaluate their products and ideas against their simple design criteria; g start to understand that the iterative process sometimes involves repeating different stages of the process.	KS2 Design and Technology National Curriculum 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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world. Children can: a explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; b explore what materials/ingredients products are made from and suggest reasons for this; c consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; d evaluate their product against their original design criteria; e evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.	KS2 Design and Technology National Curriculum 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. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world. Children can: a complete detailed competitor analysis of other products on the market; b critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; c evaluate their ideas and products against the original design criteria, making changes as needed.

Technical Knowledge	KS1 Design and Technology National Curriculum Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Children can: a build simple structures, exploring how they can be made stronger, stiffer and more stable; b talk about and start to understand the simple working characteristics of materials and components; c explore and create products using mechanisms, such as levers, sliders and wheels.	KS2 Design and Technology National Curriculum Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products. Children can: a understand that materials have both functional properties and aesthetic qualities; b apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; c understand and demonstrate how mechanical and electrical systems have an input and output process; d make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; e explain how mechanical systems such as levers and linkages create movement; f use mechanical systems in their products.	KS2 Design and Technology National Curriculum Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products. Children can: a apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; b understand and demonstrate that mechanical and electrical systems have an input, process and output; c explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; d apply their understanding of computing to program, monitor and control a product.

Cooking and Nutrition	KS1 Design and Technology National Curriculum Children use the basic principles of a healthy and varied diet to prepare dishes. They understand where food comes from. Children can: a explain where in the world different foods originate from; b understand that all food comes from plants or animals; c understand that food has to be farmed, grown elsewhere (e.g. home) or caught; d name and sort foods into the five groups in the Eatwell Guide; e understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; f use what they know about the Eatwell Guide to design and prepare dishes.	KS2 Design and Technology National Curriculum Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: a start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; b understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; c with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; d use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking; e explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; f understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; g prepare ingredients using appropriate cooking utensils; h measure and weigh ingredients to the nearest gram and millilitre; i start to independently follow a recipe; j start to understand seasonality.	KS2 Design and Technology National Curriculum Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: a know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; b understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; c understand that food is processed into ingredients that can be eaten or used in cooking; d demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source; e demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling; f explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes; g adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; h alter methods, cooking times and/or temperatures; i measure accurately and calculate ratios of

			ingredients to scale up or down from a recipe; j independently follow a recipe.

Design Technology CURRICULUM IMPLEMENTATION: ASSESSMENT

We have clear expectations with regards to the significant mile stones for our children. These include an expectation that a significant percentage of our children will exceed the end of KS2 expectations in Design Technology.

EYFS	KS1	KS2
Children can : • safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • 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, art, music, dance, role play and stories. • handle equipment and tools effectively, including pencils for writing.	Can children: • 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. • 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. • explore and evaluate a range of existing products; • evaluate their ideas and products against design criteria. • 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. • use the basic principles of a healthy and varied diet to prepare dishes; • understand where food comes from.	Can children: • 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. • 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. • 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. • 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. • 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.

Design and Technology CURRICULUM IMPLEMENTATION: SPIRITUAL MORAL SOCIAL AND CULTURAL DEVELOPMENT

Our Design and Technology Curriculum contributes to the spiritual, moral, social and cultural development of our children and embeds our School ethos and mission statement of, Together we DREAM, together we learn.

Spiritual Development	Moral Development	Social Development	Cultural Development
• A respect for self and others • An increasing ability to reflect • A sense of empathy with other • Concern & compassion • An awareness and understanding of their own and others beliefs • An ability to think in terms of the whole • A readiness to challenge all that would constrain the human spirit • An understanding that words can hurt people even if done through technology	• Respect for others' needs, interests and feelings as well as their own • A desire to explore their own and others' views • An ability to make responsible and reasoned judgements on moral dilemmas • A considerate style of life • An understanding of the need to review and reassess their values, codes and principles in the light of experience • Recognising that sharing items through devices can impact peoples lives	• Appreciates the right and responsibilities of individuals within the wider social setting • Adjusts to a range of social contexts by appropriate and sensitive behaviour • Challenges, when necessary and in appropriate ways, the values of a group or wider community • Understands how societies function and are organised in structures such as the family, the school and local and wider communities • Shares values and opinions with others and works towards consensus • Reflects on their own contribution to society • Understands the notion of interdependence in an increasingly complex society	• An appreciation of the diversity and interdependence of cultures • An ability to appreciate cultural diversity and accord dignity and respect to other people's values and beliefs, thereby challenging racism and valuing race equality • An ability to recognise and understand their own cultural assumptions and values • An understanding of the influences which have shaped their own cultural heritage • An understanding of the dynamic, evolutionary nature of cultures • A sense of personal enrichment through encounter with cultural media and tradition from a range of cultures • Regard for the height of human achievement in all cultures and societies • Openness to new ideas and a willingness to modify cultural values in the light of experience

Design and Technology CURRICULUM IMPLEMENTATION: EXTRA-CURRICULAR CLUBS

Being able to offer our children a wide range of diverse extra-curricular activities is very important as it encourages them to become independent, confident and successful members of the community. Some of our clubs relating to Design and Technology are run by external providers and take place after school but we also run our own clubs after school. Clubs are available for both KS1 and KS2 children.

The list of clubs is ever changing but generally includes:

- Craft
- Christmas Crafts
- Cookery club
- Lego club
- EYFS stay and play(various activities eg construction, junk modelling)

Children also participate in a range of events and competitions including The Annual Rainford Art Exhibition, design a Christmas card competition, bake off competitions and designing poster competitions.

Design and Technology CURRICULUM IMPLEMENTATION: HEALTH & SAFETY AND SAFEGUARDING

Risk assessment of tools and materials being used by staff members.

Risk Assessments are completed for all off site activities.

Appropriate staff supervision ratios are ensured.

Approved venues and transport are used.

Design and Technology CURRICULUM IMPLEMENTATION: STAFF DEVELOPMENT

Key staff undertake ongoing professional development as identified through consistent, embedded monitoring and regular informal professional conversations.

Design and Technology CURRICULUM IMPACT

Design and Technology LESSONS
All children have consistent access to high quality, safe and broad Design and Technology lessons which: • Benefit health and well being • Develop their knowledge, skills and experiences of Design and Technology • Build the knowledge, skills, values and confidence necessary for them to make positive, healthy decisions throughout their lives • Develop their social, moral, spiritual and cultural understanding by linking their understating and learning to their lives.
Design and Technology EXTRA CURRICULAR CLUBS
All children have access to: • Extra–curricular opportunities such as craft club • Opportunities to socialise with different peer groups • Opportunities to make a positive contribution to our school and community – working with local artists, entering local competitions, Design and Technology around school grounds and the community
PROFESSIONAL DEVELOPMENT & RESEARCH
• Continuous Staff development is planned annually • Staff questionnaires are completed annually to ensure suitable coverage and topic success rate

The impact of using a full range of resources, including display materials, will be seen across Corpus Christi with an emphasis on the profile of Design and Technology. The learning environment across the school will be more consistent, with Design and Technology technical vocabulary displayed, spoken and used by all learners. Whole-school and parental engagement will be improved through the use of Design and Technology-specific home learning tasks and opportunities suggested in lessons and overviews for wider learning. We want to ensure that Design and Technology is loved by teachers and pupils at Corpus Christi, therefore encouraging them to want to continue building on this wealth of skills and understanding, now and in the future. Impact can also be measured through key questioning skills built into lessons, child-led assessment, and summative assessments aimed at targeting next steps in learning.