



Design and Technology scheme of work



“Technology makes what was once impossible possible. The design makes it real.” – Michael Gagliano

Christian values underpinning learning: To develop a life of faith in God and **respect** for the dignity of all human beings; to nurture **resilient** thinkers rather than mere reflectors of others' thoughts; to promote **compassion, co-operation** and **happiness** through loving service rather than selfish ambition; to ensure maximum development of each individual's potential; and to embrace all that is true, good, and beautiful.

Intent

The National Curriculum (2014) forms the basis for all subject teaching ensuring continuity and progression in an age-related curriculum. In addition, teachers make sure the content is relevant and stimulating. We believe that all children are entitled to receive a high-quality of education regardless of their needs or disabilities. Teachers will ensure that all pupils needs are identified and reviewed regularly, and that appropriate support is put in place. We work in collaboration with the children’s parents, external agencies and other professionals to ensure that there is a collaborative approach to supporting our pupils with SEND. Teachers will provide a learning environment that is tailored to the needs of all pupils including those with additional needs. It is our intention that our children will be equipped with the skills needed to become independent learners, both inside and outside of the classroom. All pupils should expect to receive an education that enables them to achieve the best possible outcomes, and become confident, able to communicate their own views and ready to make a successful transition into secondary school and then adulthood.

At Fletewood School, we believe that:

- **Design and Technology teaches our pupils the skills they need for independent and healthy living.**
- All pupils should develop an interest in the food they eat and understanding of where it comes from.
- All pupils should develop a love of cooking and the basic skills needed to prepare food for themselves and others.
- Design and Technology provides structured opportunities for pupils to develop both gross and fine motor skills.
- Pupils should be taught to use a variety of tools and materials safely and effectively.
- Pupils should be taught to experiment with different structures, learning how to improve their strength and stability.

- Pupils should learn to make use of technology alongside the knowledge and skills they have learned in other subjects, such as Maths, Science and Art in a variety of practical applications.
- Pupils should be given opportunities to disassemble and assemble a range of everyday products in order to gain a better understanding of the world around them.
- All pupils should be provided with a stimulating Design and Technology curriculum which allows them to develop their creativity through designing and making projects.
- Evaluation is an integral part of the design process and allows children to adapt and improve their product. This is a key skill which they need throughout their life and provides the children with an opportunity to develop the thinking skills of posing and solving problems, and resilience.

Implementation

All pupils including those with SEND will be provided with high quality teaching and resources adapted to meet their individual needs. Where appropriate, pupils may be supported 1:1 or in a small group to enable them to access the curriculum.

- The Design and Technology curriculum is designed so that skills are taught progressively, ensuring that all children build on their prior knowledge and practical skills as they move through the school.
- All teaching of Design and Technology should follow the design, make and evaluate cycle.
- The teaching of Design and Technology will make clear links to other curriculum areas as appropriate.
- The Design and Technology curriculum will ensure the development of the children's technical knowledge.
- The Design and Technology curriculum will be taught through real life, relevant contexts to give meaning to learning.
- Children will be taught to safely use a range of tools so that they can choose freely from them during the making stages of D & T projects.
- Children will learn to evaluate their own products against design criteria.
- The children's technical vocabulary should be developed at each stage.

The key skills we teach the children are:

- sewing and textiles
- cooking and nutrition
- electrical and mechanical components

- Using materials

Subject overview:

Year A

Class	Autumn Term	Spring Term	Summer Term
Class 1 (EYFS)	<p>Explore different materials freely, to develop their ideas about how to use them and what to make.</p> <p>Explore how things work.</p> <p>Develop their fine motor skills to use a range of tools competently.</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour and design, texture, form and function. Share their creations, explaining the process they have used.</p>	<p>Develop their fine motor skills to use a range of tools competently.</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour and design, texture, form and function. Share their creations, explaining the process they have used.</p>	<p>Develop their fine motor skills to use a range of tools competently.</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour and design, texture, form and function. Share their creations, explaining the process they have used.</p>
Class 2 (Y1/2)	<p>Food - Sensational salads</p> <p>This Sensational Salads unit will teach your class about peeling, zesting, cutting safely and applying these skills when preparing healthy dishes. Children will learn key information about healthy eating and where their food comes from. They will gain some practical ideas about ingredients that</p>	<p>Our fabric faces</p> <p>In this unit the class will learn all about different fabrics. They will explore and become familiar with the names of different fabrics and learn how to choose and manipulate fabrics to create different effects; they will also learn how to join fabrics in a variety of ways. Running stitch will be introduced</p>	<p>Moving pictures –traditional tales</p> <p>This ‘Moving Traditional Tale Pictures’ unit gives children opportunities to develop their understanding of mechanisms. Children listen to and role play different Traditional Tales and then learn how sections of the stories can be made into a moving picture. Following instructions on how to</p>

	can be combined to make interesting and healthy salads.	during this unit. Finally, children get the chance to apply all of these skills to help them create their own fabric face which they will evaluate.	make different types of mechanisms, such as levers, wheels and sliders, gives children experience and information to draw on when developing their own ideas. They sketch a design based on their ideas and then create their moving picture centred on the story of 'The Three Billy Goats Gruff.' Children evaluate their finished product.
Class 3 (Y3/4)	<p>Food- Edible garden</p> <p>This unit provides an opportunity for children to learn where and how a variety of ingredients are grown. Firstly, children will learn how to plant seeds and care for their plants so they yield produce that can be used in their cooking. They will learn how to cook with the ingredients they are growing; following recipes and using different kitchen equipment. The lessons take into account the appropriate safety and hygiene rules.</p>	<p>Textiles –design and make own t-shirts</p> <p>In this unit the class will revise the names and properties of different fabrics. They will explore the different techniques used to add pattern and detail to clothing including print, dying, fabric pens, and sewing on embellishments such as buttons, sequins, ribbons etc. Finally, they will design, make and evaluate a t-shirt that represents their individual passions and interests.</p>	<p>Let's go fly a kite</p> <p>This Let's Go Fly a Kite unit gives children opportunities to develop their understanding of frame structures and how they can be strengthened and stiffened. Children will discover information about a key event involving a kite that helped shape the world. Children will gain knowledge and understanding about the parts and shapes of kites. This will help them when designing and making their own kites. Finally, children will test and evaluate their kites against design criteria they have created.</p>
Class 4 (Y5/6)	<p>Automata animals (Christmas display)</p> <p>This 'Automata Animals' unit gives children opportunities to further develop their understanding of mechanical systems. Children learn about controlling movement with a cam mechanism as part of an automata animal. They develop their designing skills through using information sources to research ideas about animals which are then incorporated into the design criteria and designs. They make a simple cam mechanism to formulate an understanding of how different shaped cams can be used to produce different movements. Children extend their making skills by developing techniques in cutting, shaping and joining to combine components and by selecting tools and equipment to measure and cut wood and card accurately. Through these activities they gain an understanding of the working</p>	<p>Textiles- Felt phone cases (Space themed)</p> <p>This Felt Phone Cases unit will teach the class about how to write their own design criteria. They will design products with the user in mind thinking about aesthetics and functionality. Annotated designs will be used to communicate ideas as well as step by step plans. Children will learn how to make a paper template and how to sew a running stitch, backstitch, whip stitch and blanket stitch. Finally, when they have made their felt phone case, children will learn how to write a detailed evaluation.</p>	<p>Food- Global food (Celebration meal)</p> <p>This Global Food unit will give your children the chance to discover the exciting and diverse choice of food available around the world. The first part of the unit provides an opportunity for children to learn where in the world a variety of ingredients flourish. They will then build on their understanding of the eatwell plate, placing different ingredients into the correct food groups. This will develop a deeper understanding that although food can be extremely varied, it still comes under the same basic food groups. Children will then have the chance to learn some basic and advanced cooking techniques, they will apply these skills when making some traditional dishes from different countries.</p>

	characteristics of the materials and components and how they can be combined to create more useful properties. Peer assessment is used to improve designs and evaluate final products.		
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Year B

Class	Autumn Term	Spring Term	Summer Term
Class 1 (EYFS)	Explore different materials using all their senses to investigate them. Join different materials and explore different textures. Explore natural materials, indoors and out.	Make simple models which express their ideas. Develop their own ideas and decide which materials to use to express them. Explore materials with different properties.	Manipulate and play with different materials. Talk about different materials and the changes they notice. Use all their senses in hands-on exploration of natural mate
Class 2 (Y1/2)	Dips and dippers This Dips and Dippers unit will teach your class about good food hygiene rules and using kitchen equipment to prepare food safely. Children will apply these skills when making and evaluating a healthy dip and dippers. The unit develops children's understanding of the eatwell plate and explains the importance of eating a healthy and varied diet.	Pirate Paddy's Packed lunch problem The Pirate Paddy's Packed Lunch Problems unit gives children the opportunity to develop their understanding of structures. The exploration of different types of lunch boxes gives children the experience and information to draw on when developing their own ideas. The children create their ideas following the design criteria, given at the beginning of the project, and go on to create models from reclaimed materials. Children gain a basic understanding about how structures can be made stronger, stiffer and more stable. At the end of the unit, children test their product and suggest further improvements.	
Class 3 (Y3/4)	Mechanisms –Calendars This unit gives children opportunities to develop their understanding of mechanical systems. Following instructions on how to make different types of lever and linkage mechanisms gives children experience and information to draw on	Food- the Great Bread Bake Off This Great Bread Bake Off unit will teach your class about working with food. Children will gain an insight into the history of bread production, then investigate and evaluate existing bread products. They will create design criteria which will be	

	when developing their own ideas. They sketch a design based on their ideas, make a prototype, and then create their 'Lever and Linkage Calendar' using a context of their choice. Finally, children will evaluate their finished product.	referred to when designing, making and evaluating their own bread product. Children use a range of skills and techniques using simple kitchen tools and measuring equipment, they will learn how to knead dough correctly and the technique of proving bread.	
Class 4 (Y5/6)	<p>Marbellous Structures</p> <p>This Marbellous Structures unit gives children opportunities to develop their understanding of more complex free-standing structures and how they can be strengthened and reinforced. Children will gain knowledge and understanding about how to join and shape materials. Children will then apply these skills, using an iterative design process, to create their marble runs. Finally, children will test and evaluate their marble runs against design criteria.</p>	<p>Programming adventures –linked to Computing</p> <p>Children will apply their understanding of computing to program a floor robot. They will explore a range of adventure maps and use these to create original designs. As a group, they will research how floor robots move along different types of materials and use this knowledge to create obstacles squares. Children will use appropriate joining methods to make a scale adventure map. They will test and evaluate the effectiveness of another group's obstacle squares.</p>	<p>Food -Seasonal Food (Celebration Day)</p> <p>This 'Super Seasonal Cooking' unit of work will teach the class about the importance of buying seasonal food. The first part of the unit provides an opportunity for children to learn where, when and how a variety of ingredients are grown, reared, caught and processed. Children will then have the chance to sample some spring seasonal food before designing their own balanced seasonal meal. They will learn how to cook with the seasonal ingredients following their own recipes and using a wide range of preparation and cooking techniques. Finally, children will evaluate their product against their design criteria. Children will learn appropriate hygiene rules for handling meat and fish and safe preparation skills.</p>

Impact

As a result of the provision above, all pupils including those with SEND will develop confidence and resilience in the classroom and will demonstrate high levels of engagement. All pupils will make progress from their starting points. They will develop both as independent and interdependent learners.

Long Term: Through the structured teaching of the Design and Technology curriculum, by the time children leave our school they will have developed:

- Their ability to think creatively

- The ability to use time efficiently
- The ability to work constructively and productively with others and independently.
- The ability to carry out research and ask questions to gain a knowledge of their users' needs.
- The ability to act as responsible designers and makers, choosing materials carefully, avoiding wastage 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.
- A knowledge and understanding of where the skills they acquire will be needed in their adult life.
- The ability to manage risks to manufacture products safely and hygienically.

Assessment in Design and Technology:

- Pupil voice – to check understanding, understanding of key techniques, progression, confidence in discussing their designs and techniques
- Children's own evaluations and peer on peer evaluations
- Display and books – opportunity to practise skills, varied and engaging curriculum, showcased final pieces, clear progression in skills
- Feedback from parents and guests who attend show case events

Role of the co-ordinator:

- To ensure there are sufficient and appropriate resources available to class teachers
- Highlight / Celebrate successes
- To review curriculum content in line with national expectations
- To monitor and evaluate the standard of both teaching and learning in DT
- Where possible to provide training opportunities for staff.