



Design and Technology

Intent

At Blackford school, our Design and Technology Curriculum is an inspiring and practical subject; it encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. We ensure children are given opportunities to build their confidence allowing them to take risks, draft design concepts, modelling and testing and be reflective learners who evaluate their work and the work of others. We aim to, wherever possible, link work to other subjects such as Maths, Art and Computing.

Our children will be taught Design and Technology in a way that ensures the progression of skills and follows a sequence to build on previous learning.

Implementation:

We follow a broad and balanced Design and Technology curriculum using the Kapow scheme. The Kapow unit of work builds on previous learning and provides both scaffolding, support and challenges for learners. We follow a Design and Technology scheme that ensures and progression of skills and covers all aspects of the Design and Technology curriculum. Over a half term, the Design and Technology provision might be from a weekly lesson or multi-day projects to really allow deep immersion in a project and time to produce a quality piece of work. Cross-curricular links, particularly with Maths, Science, Computing and Art allow pupils to develop and apply the skills they have learned in other areas of the curriculum, giving learning value and content. Children's work will be recorded in learning journals or images will be stored on Pupil shared for reference and assessment.

Impact:

Our children enjoy and show confidence in Design and Technology that they will then apply to other areas of the curriculum. As designers, children acquire skills and attributes they can use beyond school and into adulthood, enabling them to begin to perform everyday tasks confidently. Progress in Design and Technology is demonstrated through regularly reviewing and scrutinising children's work, in accordance with our Design and Technology assessment policy to ensure that progression of skills is taking place. Namely through observations of the pupils as they work, individual



discussions to gain more insight into the process they have followed, looking at learning journals, especially over time as they gain skills and knowledge. Progress will be shown through outcomes and through the important record of the process leading to them.

EYFS

In EYFS, staff's professional judgments are valued. Assessments are formative so that they quickly make a difference in children's learning. They inform the provision of activities and experiences which develop children's skills and knowledge as well as giving opportunities to use these skills in different areas. We record children's development of skills on Tapestry and build up a detailed picture of each child.

Knowledge	Year A 2024 – 2025 Class 1: EYFS and Year 1		
	Structures Junk Modelling	Textiles Bookmarks	Cooking and nutrition Soup
	• To understand different materials and how to join them together • To know there are various methods of joining materials • To know how to use tools safely • To know that you can plan verbally before constructing	• To understand what weaving is • To know how to use tools safely • To know that stitching can create a pattern and is a type of threading skill • To understand weaving techniques	• To know the differences between fruit and vegetables • To know the importance of using tools safely • To know the different names for tools and what they are used for • To know that there are 5 senses
	Year B 2025- 2026 Class 1: EYFS and Year 1		
Knowledge	Mechanisms Wheels and axles	Structure Making a Windmill	Textiles Puppets
	• To know that wheels need to be round to rotate and move • To understand that for a wheel to move it must be attached to a rotating axle • To know that an axle moves within an axle holder which is fixed to the vehicle or toy • To know that the frame of a vehicle (chassis) needs to be balanced • To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles	• To know that the sails are move by the wind • To know that windmills are used to generate power and were used for grinding flour • To know a structure is built for a reason • To know that stable structures do not topple • To know that adding weight to the base of the structure can make it more stable	• To know that 'joining technique' means connecting two pieces of material together • To know that there are various temporary methods of joining fabric by using staples. glue or pins • To understand that different techniques for joining materials can be used for different purposes • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times • To know that drawing a design idea is useful to see how an idea will look
	Creative lessons in Years A and B are very short and focused activities, enabling children to use areas of focus in continuous provision		

	Creative items are available throughout the continuous provision to which the children had access to and children's interests can be developed through resources and adult intervention and questioning, modelling and challenging ideas and thoughts Expressive Arts and Design ELG: Creating with Materials Children at the expected level of development will: - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used; ELG: Fine Motor Skills Children at the expected level of development will: - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery; - Begin to show accuracy and care when drawing		
Class 2	Year A 2024- 2025 Class 2: Year 2 and 3		
	Digital World Wearable technology	Electrical System Electric Poster	Cooking and Nutrition Eating Seasonally
Knowledge	•To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. •To know that a micro bit is a pocket-sized, codeable computer. • To know that a simulator is able to replicate the functions of an existing piece of technology. • To know what the 'Digital revolution' is and features of some of the products that have evolved as a result. •To understand what is meant by 'point of sale display.' •To know that CAD stands for 'Computer-aided design'. •To know what a focus group is by taking part in one.	• To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. • To understand common features of an electric product (switch, battery or plug, dials, buttons etc.) • To list examples of common electric products (kettle, remote control etc.) • To understand that an electric product uses an electrical system to work (function). • To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.	• To know that not all fruits and vegetables can be grown in the UK • To know that climate affects food growth • To know that vegetables and fruit grow in certain seasons • To know that cooking instructions are known as a 'recipe' • To know that imported food is food which has been brought into the country • To know that exported food is food which has been sent to another country. • To understand that imported foods travel from far away and this can negatively impact the environment • To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fiber • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health • To know safety rules for using, storing and cleaning a knife safely
	Year B 2025- 2026 Class 2: Year 2 and 3		



	Mechanisms Making a moving monster	Structures Baby Bear's Chair	Textiles Pouches
Knowledge	• To know that mechanisms are a collection of moving parts that work together as a machine to produce movement • To know that there is always an input and output in a mechanism • To know that an input is the energy that is used to start something working • To know that an output is the movement that happens as a result of the input • To know that a lever is something that turns on a pivot • To know that a linkage mechanism is made up of a series of levers • To know some real-life objects that contain mechanisms	• To know that shapes and structures with wide, flat bases or legs are the most stable • To understand that the shape of a structure affects its strength • To know that materials can be manipulated to improve strength and stiffness • To know that a structure is something which has been formed or made from parts • To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move • To know that a 'strong' structure is one which does not break easily • To know that a 'stiff' structure or material is one which does not bend easily • To know that natural structures are those found in nature • To know that man-made structures are those made by people	• To know that sewing is a method of joining fabric • To know that different stitches can be used when sewing • To understand the importance of tying a knot after sewing the final stitch • To know that a thimble can be used to protect my fingers when sewing

	Year A 2024 – 2025 Class 3: Year 4, 5, and 6		
	Digital world Mindful Moments Timer	Electrical systems Torches	Food Adapting a recipe
Knowledge	• To understand what variables are in programming. • To know some of the features of a micro bit. • To know that an algorithm is a set of instructions to be followed by the computer. • To know that it is important to check code for errors (bugs). • To know that a simulator can be used as a way of checking code works before installing it onto an electronic device. • To the terms 'ergonomic' and 'aesthetic'.	• To understand that electrical conductors are materials which electricity can pass through • To understand that electrical insulators are materials which electricity cannot pass through • To know that a battery contains stored electricity that can be used to power products • To know that an electrical circuit must be complete for electricity to flow • To know that a switch can be used to complete and break an electrical circuit • To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens	To know that the amount of an ingredient in a recipe is known as the 'quantity' • To know that it is important to use oven gloves when removing hot food from an oven • To know the following cooking techniques: sieving, creaming, rubbing method, cooling • To understand the importance of budgeting while planning ingredients for biscuits



• To know that a prototype is a 3D model made out of cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials. • To know that an exhibition is a way for companies to showcase products, meet potential new customers and gather feedback from users	• To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison	
Year B 2025-2026 Class 3: year 4, 5 and 6		
Mechanical Systems Making a pop-up book	Structures Bridges	Textile Stuffed Toys
• To know that mechanisms control movement • To understand that mechanisms that can be used to change one kind of motion into another • To understand how to use sliders, pivots and folds to create paper-based mechanisms • To know that a design brief is a description of what I am going to design and make • To know that designers often want to hide mechanisms to make a product more aesthetically pleasing	• To understand some different ways to reinforce structures • To understand how triangles can be used to reinforce bridges • To know that properties are words that describe the form and function of materials • To understand why material selection is important based on their properties • To understand the material (functional and aesthetic) properties of wood • To understand the difference between arch, beam, truss and suspension bridges • To understand how to carry and use a saw safely	• To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric • To understand that it is easier to finish simpler designs to a high standard • To know that soft toys are often made by creating appendages separately and then attaching them to the main body • To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely
Year C 2026-2027 Class 3: year 4, 5 and 6		
Digital World Navigating the World	Electrical Systems Steady Hand Game	Cooking and Nutrition Come Dine with Me
• To know that accelerometers can detect movement. • To understand that sensors can be useful in products as they mean the product can function without human input.	• To know that batteries contain acid, which can be dangerous if they leak • To know the names of the components in a basic series circuit including a buzzer • To know that 'form' means the shape and appearance of an object	• To know that 'flavour' is how a food or drink tastes • To know that many countries have 'national dishes' which are recipes associated with that country



	•To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. •To know that 'multifunctional' means an object or product has more than one function. •To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.	• To know the difference between 'form' and 'function' • To understand that 'fit for purpose' means that a product works how it should and is easy to use • To know that form over purpose means that a product looks good but does not work very well • To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind • • To understand the diagram perspectives 'top view', 'side view' and 'back'	• To know that 'processed food' means food that has been put through multiple changes in a factory • To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork)
--	--	---	---