

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



To note:

- Some areas of the design and technology curriculum will be covered in the year group prior or year group after that which is stated as well as their own year group due to the mixed year-group classes which Martlesham Primary Academy has due to cohort numbers. When the children are exposed to the same objective area the following year, this allows them to apply it to a different context and therefore consolidates their learning.

National Curriculum for Design and Technology:

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Pupils should be taught:	Children at the expected level of development will: 1. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 2. Share their creations, explaining the process they have used. 3. Make use of props and materials when role playing characters in narratives and stories.	1. design purposeful, functional, appealing products for themselves and other users based on design criteria 2. generate, develop, model and communicate their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology 3. select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] 4. select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. explore and evaluate a range of existing products 6. evaluate their ideas and products against design criteria 7. build structures, exploring how they can be made stronger, stiffer and more stable 8. explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 9. use the basic principles of a healthy and varied diet to prepare dishes 10. understand where food comes from.	1. 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 2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 3. select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 4. 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 5. investigate and analyse a range of existing products 6. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 7. understand how key events and individuals in design and technology have helped shape the world 8. apply their understanding of how to strengthen, stiffen and reinforce more complex structures 9. understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 10. understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] 11. apply their understanding of computing to program, monitor and control their products. 12. understand and apply the principles of a healthy and varied diet 13. prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques 14. understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.				

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Progression map for Design and Technology:

Design	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Generation of Ideas	With examples, children create a simple design. Objects are designed and created using known objects.	A product or project is usually guided by a set of design criteria. The project or product must meet the design criteria to be successful. Create a design to meet simple design criteria.	Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology. Generate and communicate their ideas through a range of different methods.	Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. Develop design criteria to inform a design.	Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. Use annotated sketches and exploded diagrams to test and communicate their ideas.	A pattern piece is a drawing or shape used to guide how to make something. Computer-aided design (CAD) is the use of specialised software to design objects. CAD designs can also be made into objects using 3-D printers. Use pattern pieces and computer-aided design packages to design a product.	Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Make	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Investigation	Safely use and explore different tools such as scissors for cutting. Explore which tools are best for different materials.	Specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking. Select the appropriate tool for a simple practical task.	Tools have characteristics that make them suitable for specific purposes. For example, scissors are used for cutting paper because they have sharp, metal blades that can cut through thin materials. Select the appropriate tool for a task and explain their choice.	Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision. Use tools safely for cutting and joining materials and components.	Tools should only be used with adult supervision and safety rules must be followed. Select, name and use tools with adult supervision.	There are many rules for using tools safely and these may vary depending on the tools being used. All tools should be cleaned and put away after use, and should not be used if they are loose or cracked. Name and select increasingly appropriate tools for a task and use them safely.	Precision is important in producing a polished, finished product. Correct selection of tools and careful measurement can ensure the parts fit together correctly. Select appropriate tools for a task and use them safely and precisely.



Martlesham Primary Academy Design and Technology Curriculum (2026-2027)

Materials for Purpose	Safely use and explore a variety of materials.	Different materials are suitable for different purposes, depending on their specific properties. Select and use a range of materials, beginning to explain their choices.	Properties of components and materials determine how they can and cannot be used. Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect.	Materials for a specific task must be selected on the basis of their properties. These include physical properties as well as availability and cost. Plan which materials will be needed for a task and explain why.	Different materials and components have a range of properties, making them suitable for different tasks. It is important to select the correct material or component for the specific purpose, depending on the design criteria. Recipe ingredients have different tastes and appearances. They look and taste better and are cheaper when in season. Choose from a range of materials, showing an understanding of their different characteristics.	Materials should be cut and combined with precision. Select and combine materials with precision.	It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability. Choose the best materials for a task, showing an understanding of their working characteristics.
---	---	---	--	--	--	---	---

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Cutting and Joining Materials	Safely use a variety of tools such as scissors. Explore joining different media together.	Scissors are used to cut fabrics. Glue and simple stitches can be used to join fabrics. Cut and join textiles using glue and simple stitches.	A running stitch is a basic stitch that is used to join fabric. It is made by passing a needle in and out of fabric at an even distance. Use different methods of joining fabrics, including glue and running stitch.	A loom is a piece of equipment that is used for making fabric by weaving wool or thread. Weaving involves interlacing pieces of thread or yarn. Cut and join wools, threads and other materials to a loom.	<i>A hem runs along the edge of a piece of cloth or clothing. It is made by turning under a raw edge and sewing to give a neat and quality finish.</i> <i>Hand sew a hem or seam using a running stitch.</i> <i>(covered last year)</i>	A collage is artwork made by sticking materials, such as scraps of paper or fabric, onto a background. A mixed media collage is made using various materials and media, such as ink and paint. Combine stitches and fabrics with imagination to create a mixed media collage.	Pinning with dressmaker pins and tacking with quick, temporary stitches holds fabric together in preparation for and during sewing. Pin and tack fabrics in preparation for sewing and more complex pattern work.
---	---	---	---	--	--	---	---

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Evaluate	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluation	Sharing their creations explaining the processes that they have used. To talk about what went well.	A strength is a good quality of a piece of work. A weakness is an area that could be improved. Talk about their own and each other's work, identifying strengths or weaknesses and offering support.	Finished products can be compared with design criteria to see how closely they match. Improvements can then be planned. Explain how closely their finished products meet their design criteria and say what they could do better in the future.	Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model. Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made. Evaluation also includes suggesting improvements and explaining why they should be made. Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements.	Testing a product against the design criteria will highlight anything that needs improvement or redesign. Changes are often made to a design during manufacture. Test and evaluate products against a detailed design specification and make adaptations as they develop the product.	An iterative process starts with requirements and continues by creating a product, testing it, and revising it before creating a better version. The iterative process is a series of steps that are repeated, improving the product with each cycle. Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others.

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Everyday Products	Make use of everyday props and materials when role playing. Safely explore a variety of products experimenting with them.	Everyday products are objects that are used routinely at home and school, such as a toothbrush, cup or pencil. All products are designed for a specific purpose. Name and explore a range of everyday products and describe how they are used.	Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive. Explain how an everyday product could be improved.	Particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box. Explain how an existing product benefits the user.	Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable. Investigate and identify the design features of a familiar product.	Architecture is defined by different styles often linked to particular periods of time. Each period uses visual elements to create its own style. The design of products needs to take into account the culture of the target audience. Explain how the design of a product has been influenced by the culture or society in which it was designed or made.	People's lives have been improved in countless ways due to new inventions and designs. For example, the Morrison shelter, designed by John Baker in 1941, was an indoor air-raid shelter used in over half a million homes during the Second World War. It saved the lives of many people caught in bombing raids. Analyse how an invention or product has significantly changed or improved people's lives.
Compare and Contrast	Share creations, explaining the process used, with support discussing the similarities and differences of the end product.	Two products can be compared by looking at a set of criteria and scoring both products against each one. Describe the similarities and differences between two products.	Products can be compared by looking at particular characteristics of each and deciding which is better suited to the purpose. Compare different or the same products from the same or different brands.	Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market. Explain the similarities and different between the work of two designers.	A comparison table can be used to compare products by listing specific criteria on which each product can be judged or scored. Create and complete a comparison table to compare two or more products.	A focus group is a small group of people whose reactions and opinions about a product are taken and studied. Evaluations can be made by asking product users a selection of questions to obtain data on how the product has met its design criteria. Survey users in a range of focus groups and compare results.	Products and inventions can be compared using a range of criteria, such as the impact on society, ease of use, appearance and value for money. Create a detailed comparative report about two or more products or inventions.

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Significant People	Know and discuss famous designers they have studied.	The importance of a product may be that it fulfils its goals and performs a useful purpose. Describe why a product is important.	Many key individuals have helped to shape the world. These include engineers, scientists, designers, inventors and many other people in important roles. Explain why a designer or inventor is important.	Key inventions in design and technology have changed the way people live. Describe how key events in design and technology have shaped the world.	Significant designers and inventors can shape the world. Explain how and why a significant designer or inventor shaped the world.	Many new designs and inventions influenced society. Describe the social influence of a significant designer or inventor.	The significance of a designer or inventor can be measured in various ways: how it benefits society or how it enhances culture. Present a detailed account of the significance of a favourite designer or inventor.
Technical Knowledge	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mechanisms and Movement		An axle is a rod that is connected to the centre of a wheel, which allows it to turn. Most vehicles that move on land have axles and wheels that are fixed to a chassis. Use wheels and axles to make a simple moving model.	People build machines to make their work easier. A machine is made up of different parts that all work together to perform a task. Individual parts of a machine are called components. The part of a machine that brings about movement is called the mechanism. Use a range of mechanisms (levers, sliders, wheels and axles) in models or products.	Cams are devices that can convert circular motion into up-and-down motion. Explore and use a range of mechanisms (axles, wheels and cams) in models or products.	Mechanisms can be used to add functionality to a model. Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.	Pneumatic systems use the energy that is stored in compressed air to do work, such as inflating a balloon to open a model monster's mouth. These effects can be achieved using syringes and plastic tubing. Use mechanical systems in their products, such as pneumatics.	

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Electricity					Components can be added to circuits to achieve a particular goal. These include bulbs for lighthouses and torches, buzzers for burglar alarms and electronic games, motors for fairground rides and motorised vehicles and switches for lights and televisions. Incorporate circuits that use a variety of components into models or products. (covered last year)		Computer programs can control electrical circuits that include a variety of components, such as switches, lamps, buzzers and motors. Understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) and use programming to control their products.
-------------	--	--	--	--	---	--	---

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Structures	Safely use and explore a variety of materials and their purposes. Select materials for creations based on their properties.	A structure should have strong, sturdy supports that are joined so that they do not move. The roof and walls should have a covering for protection against the weather, and there should be an entry point. Construct simple structures, models or other products using a range of materials.	Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable. Explore how a structure can be made stronger, stiffer and more stable.	Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts create triangular shapes within a frame structure. Adding diagonal struts adds strength and stability. Create shell or frame structures using diagonal struts to strengthen them.	A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials. Shell and frame structures can be strengthened by gluing several layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them). Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	Various methods can be used to support a framework. These include cross braces, guy ropes and diagonal struts. Frameworks can be built using lolly sticks, skewers and bamboo canes. Build a framework using a range of materials to support mechanisms.	Strength can be added to a framework by using multiple layers. Triangular shapes can be used instead of square shapes because they are more rigid. Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.
--	---	---	--	--	--	--	--

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Use of ICT					Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device. Write a program to control a physical device, such as a light, speaker or buzzer. (covered last year)		Many devices that we see in our homes and elsewhere use programmable sensors that monitor environmental variables, such as light, sound, movement and temperature. Use a sensor to monitor an environmental variable, such as temperature, sound or light.
	Cooking and Nutrition	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5



Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)

Food Preparation and Cooking	Making healthy foods.	Using non-standard measures is a way of measuring that does not involve reading scales. Measure and weigh food items using non-standard measures, such as spoons and cups.	Some foods need to be prepared before eating. Peeling, slicing, chopping, grating or mashing are different methods of preparing foods. Prepare ingredients by peeling, grating, chopping and slicing.	Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning. Prepare and cook a simple savoury dish.	Cooking techniques include baking, boiling, frying, grilling and roasting. Identify and use a range of cooking techniques to prepare a simple meal or snack.	Sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one. Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish.	Ingredients can usually be bought at supermarkets but specialist shops may stock different items such as specialist vegetables or coffees. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses. Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.
-------------------------------------	------------------------------	--	---	--	--	--	---



Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)

Nutrition	Identify foods which are healthy and unhealthy. Explain what we can do to keep healthy.	<i>Fruit and vegetables are an important part of a healthy diet. It is recommended that people eat at least five portions of fruit and vegetables every day.</i> <i>Select healthy ingredients for a fruit or vegetable salad.</i> <i>(covered last/next year)</i>	A healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables. Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	There are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese, yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet. Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).	<i>Healthy snacks include fresh or dried fruit and vegetables, nuts and seeds, rice cakes with low-fat cream cheese, homemade popcorn or chopped vegetables with hummus.</i> <i>Design a healthy snack and explain why it is healthy.</i> <i>(covered last year)</i>	A balanced diet gives your body all the nutrients it needs to function correctly. This means eating a wide variety of foods in the correct proportions. Evaluate meals and consider if they contribute towards a balanced diet.	<i>Eating a balanced diet is a positive lifestyle choice that should be sustained over time.</i> <i>Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet.</i>
------------------	---	---	--	--	---	---	--

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Origins of Food	Identify food that does not grow in this country e.g some food needs hot weather (alternative climate) whereas others need lots of rain. Name some foods which grow below the ground and some above the ground.	Some foods come from animals, such as meat, fish and dairy products. Other foods come from plants, such as fruit and vegetables. Sort foods into groups by whether they are from an animal or plant source.	Food comes from two main sources: animals and plants. Milk mainly comes from cows but also from goats and sheep. Eggs belong to the animal product category. They are laid by female animals. The most common types eaten by humans include chicken and duck eggs. Honey is made by bees. Most edible oils are made from parts of plants. Olive oil, vegetable oil and coconut oil are all made from plant sources. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts. Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).	The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat barley and vegetables grow well in the east of England. Identify and name foods that are produced in different places.	<i>Particular areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America.</i> <i>Identify and name foods that are produced in different places in the UK and beyond.</i> <i>(covered last year)</i>	Seasonality is the time of year when the harvest or flavour of a type of food is at its best. Buying seasonal food is beneficial for many reasons: the food tastes better; it is fresher; the nutritional value is higher; the carbon footprint is lower; it supports local growers and is usually cheaper. Describe what seasonality means and explain some of the reasons why it is beneficial.	Organic whole foods are grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives. Organic farmers use crop rotation, animal and plant manures, hand-weeding and biological pest control. Explain how organic produce is grown.
---	---	---	---	---	--	---	---

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Staying Safe	Understand the word safety and what it means. Explain how to keep safe in a variety of situations. Be able to follow instructions involving several ideas or actions. Explain the reason for rules.	Rules are made to keep people safe from danger. Safety rules include always listening carefully and following instructions, using equipment only as and when told to, wearing protective clothing if appropriate and washing hands before touching food. Follow the rules to keep safe during a practical task.	Hygiene rules include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills. Work safely and hygienically in construction and cooking activities.	Electrical appliances must only be used under the supervision of an adult. Safety rules must also be followed when using electricity: fingers and other objects must not be put into electrical outlets, anything with a cord or plug should never be used around water and a plug should never be pulled out by its cord. Use appliances safely with adult supervision.	Chemicals are used in the home every day. They include cleaning products, such as bleach and disinfectant, but also paints, glues, oils, pesticides and medicines. Chemicals should only be used under adult supervision. Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray.	Safety features are often incorporated into products that might cause harm. Explain the functionality and purpose of safety features on a range of products.	The safety of the user has to be taken into account when designing a new product. Demonstrate how their products take into account the safety of the user.

Knowledge specific for each unit of Design and Technology:

On the Move KS1	Den Designers KS1	Chop, Slice and Mash KS1
- A chassis is the frame of a vehicle. - An axle fixed to a chassis has freely moving wheels. - A freely moving axle has fixed wheels. - Most vehicles that move on land have axles and wheels that are fixed to a chassis.	- A shelter is a structure designed to give protection from weather or danger. A bus shelter, office block, garage, carport, tent, bird table, shed, conservatory, house, kennel and caravan are all examples of shelters. A shelter can be permanent, like a house or garage, or temporary, like a tent or gazebo. - A structure should have strong, sturdy supports that are joined so that they do not move. The roof and walls should have a covering for	- Knives are used for slicing and chopping, a grater is used for grating, a vegetable peeler is used for peeling and a masher is used for crushing. - Fruits and vegetables can be mixed to make a healthy salad. Salad dressings can improve the flavour of salads.

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



	protection against the weather, and there should be an entry point. - A play den is a shelter, usually built outside. It is a temporary structure made from found or readily available materials. It can be used for imaginative play or to provide protection from the weather.	
<u>Context</u> Designing and making taxis using axles, wheels and chassis. <u>Key Designer</u> Henry Ford – Ford cars	<u>Context</u> Designing and building a play den as a group.	<u>Context</u> Designing and making a supermarket sandwich according to specific design criteria. <u>Inventor</u> John Montagu – inventor of sandwich
Push and Pull KS1	Cut, Stitch and Join KS1	Remarkable Recipes KS1
- A machine is made up of different parts that all work together to perform a task. - Individual parts of a machine are called components. - A slider mechanism moves in a straight line. - Real-life examples of slider mechanisms include door bolts and drawers. - A lever mechanism is a bar that moves around a fixed point called a pivot. - Real-life uses of levers include scissors and seesaws. - A linkage mechanism combines levers and sliders. - Real-life uses of linkages include toolboxes and scissor lifts.	- There are many fabric home products. - Examples of fabric-based products in the home include cushions, curtains, blinds and carpets. - A brand is a name, term, design or symbol identifying a seller's products or services. - The Cath Kidston brand was an important British brand which began in the 1990s. - It was easily recognisable for its floral-patterned fabric and use of classic British iconography including the Red London Bus and London black cab.	- School kitchen staff are important people because they design and provide healthy meals.
<u>Context</u> Designing and making a greetings card with a moving part.	<u>Context</u> Designing and making a sewn bag tag. <u>Key Designers</u> Cath Kidston	<u>Context</u> Choose and make a new school meal that fulfils specific design criteria. <u>Key chef</u> Jamie Oliver
Beach Hut KS1		
<u>Context</u>		

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



Designing and making a beach hut model using a 3-D wooden box frame.		
Making It Move LKS2	Greenhouse LKS2	The Healthy Kitchen LKS2
- Different shaped cams produce different patterns of movement in the follower. - The cam is fixed to the axle and the follower sits on the cam. When the axle is rotated, the follower moves up and down, following the shape of the cam.	- A greenhouse is a building where plants can grow in a warm and protected environment. Greenhouses let light in through transparent or translucent walls and roofs. Windows, vents or fans provide ventilation. - Materials, such as glass and plastic are suitable for making greenhouse roofs and walls because they are transparent, waterproof and hardwearing.	- Humans get nutrition from what they eat. - It is important to have a balanced diet made up of the main food groups, including proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads. - Humans need to stay hydrated by drinking water. - Slow cookers cook food on a low heat over several hours. - Ratatouille is a vegetarian dish made from onions, aubergines, courgettes, peppers and tomatoes. - Tacos are a traditional Mexican street food made from wheat or corn tortillas, filled with a meat or vegetarian filling and topped with salsa, lettuce or cheese.
<u>Context</u> Designing, making and evaluating a child's automaton toy. <u>Key Designer</u> Tony Mann	<u>Context</u> Designing and constructing a mini greenhouse. <u>Key Designers</u> Sir Joseph Paxton (Great Conservatory at Chatsworth House, Derbyshire) Sir Nicholas Grimshaw (Biomes of the Eden Project, Cornwall)	<u>Context</u> Choose and make a taco filling according to specific design criteria. <u>Key Chef</u> Gabriela Càmara (Mexican chef)
Tomb Builders LKS2	Functional and Fancy Fabrics LKS2	Fresh Food, Good Food LKS2
- Simple machines make physical jobs easier by changing the strength or direction of a force.	- Fabrics can be natural or synthetic. Natural fabrics include cotton, silk and wool. Synthetic fabrics include Lycra, polyester and nylon.	- Food packaging plays an important role in keeping foods fresh. The 'use by' date shows when the food is no longer safe to eat. The

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



- There are six simple machines: pulley; lever; wheel and axle; wedge; inclined plane; and screw. - Simple machines can be combined to make complex, compound machines. - Characteristics of materials, such as rigidity, strength and smoothness will affect the success of a working model.	- Design features include purpose and function, appearance, quality, material, size, colour, pattern, embellishment, durability and usability. - William Morris was a British textile designer, artist and socialist activist associated with the British Arts and Crafts Movement. He was a significant contributor to the revival of traditional British textile arts and methods of production. - William Morris' motifs consisted mainly of leaves, flowers, fruits and birds. - Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. - Joining tools to use with fabric include needles, pins and clips, cutting tools include a variety of scissors such as pinking shears, finishing tools include an iron and ironing board.	'best before' date shows the date after which the food will lose some flavour or texture. - Food deteriorates due to the growth of microorganisms. Decay can be prevented or delayed by preservation methods, such as drying, salting, pickling, canning, pasteurising, refrigerating or freezing the food. - Most cardboard packaging is produced from a net. Packages can be strengthened by using thicker cardboard or multiple layers. - Foods need packaging to keep them fresh, safe to eat and free from damage. Food packaging also provides nutritional information about the food inside, 'use by' and 'best before' dates, and the materials and recyclability of the packaging.
<u>Context</u> Designing and making a machine prototype to help Ancient Egyptians move and lift heavy stones more easily to make the pyramids.	<u>Context</u> Design and make a fabric sample inspired by the style of William Morris. <u>Key Designer</u> William Morris	<u>Context</u> Prepare, package and evaluate a healthy snack. <u>Key Inventors</u> Louis Pasteur (pasteurising) William Cullen (invented refrigeration) Nicolas Appert (invented canning)
Electrical Circuits and Conductors LKS2		
- A programmable device is a machine that is provided with coded instructions for the automatic performance of a task. - A nightlight is a small electric light that gives out a dim glow. - Design features of nightlights include a switch, light source and an attractive casing.		
<u>Context</u> Designing and making a night light.		
Moving Mechanisms UKS2 - A pneumatic system uses air to exert a force. - Different mechanisms and systems can work together to perform a function. - A strong and stable structure is necessary to support different mechanisms in a machine. Building Through Time UKS2 - Different types of architectural design include examples such as Classical, Gothic, Renaissance, Baroque and Postmodern. - A Roman architect called Vitruvius said that successful buildings should have firmitas Eat the Seasons UKS2		



Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)

- Pneumatic systems can be used to lift heavy loads, raise and lower platforms or soften a force by acting as a shock absorber.	(stability), utilitas (useful space) and venustas (an attractive appearance). - The ancient Greeks developed the Classical form of architecture that has been copied for thousands of years. - Support, stiffness and stability can be created by using triangular shapes to create strong frameworks, columns to support roofs and overlapping brickwork patterns.	
<u>Context</u> Designing, making and evaluating a pneumatic machine that performs a useful function.	<u>Context</u> Designing a building with specific features. <u>Key Designers</u> Ancient Greeks	<u>Context</u> Designing and making a seasonal soup.
Engineer UKS2	Repair and Reuse UKS2	Food For Life UKS2
- Bridge structures have changed over time with innovations in design and materials. This is due to factors such as technology, design innovation and new and better access to materials. - Significant engineers have improved safety, people's lives and trade through their constructions. - Significant bridges include the Menai Bridge, Clifton Suspension Bridge and Forth Bridge. - The four main bridge types are the beam bridge, arch bridge, truss bridge and suspension bridge. They each spread forces in different ways to remain strong and stable. - Triangles do not collapse or distort easily and so are used in architecture to provide support and stability.	- Make Do and Mend was a campaign run by the Ministry of Information to encourage people to recycle and repurpose their old clothes rather than buy new. - The Make Do and Mend campaigns aimed to limit the amount of labour and materials used in clothes production, so that it could be used to support the greater war effort. - Deconstructing garments identifies how they were made, the materials used and their properties. - Hand stitches include running stitch, blanket stitch and whip stitch.	- A processed food is changed during preparation and includes processes, such as cooking, freezing, pasteurising, or the addition of ingredients. - Processed food can be convenient and increase availability, but often lack of nutrients and contain unhealthy ingredients compared to whole foods. - Sliced bread is processed. It can contain many more ingredients than homemade bread, including preservatives and artificial ingredients. - Whole foods have not been changed from their natural form. - Food packaging provides important nutritional information about the food inside.
<u>Context</u> Completing a bridge-building engineering challenge to create a bridge prototype. <u>Key Designers/Engineers</u> Isambard Kingdom Brunel Thomas Telford	<u>Context</u> Create a new product from recycled fabrics (bookmark, pin cushion or pencil case).	<u>Context</u> Plan and make meals as part of a healthy daily menu. <u>Key Chef</u> Ainsley Harriott
Electrical Circuits and Components UKS2		
- Many devices that we see in our homes and elsewhere use programmable sensors that monitor environmental variables, such as light, sound, movement and temperature.		

Martlesham Primary Academy
Design and Technology Curriculum (2026-2027)



<u>Context</u> Designing and making a programmable home device.		