Matlock and Dales Primary Partnership

Design Technology

Intent, Implementation and Impact Statement

	Key Points
Our Intent	We aim to provide pupils with a practical, inspiring and creative experience in Design and Technology lessons as they develop their knowledge and skills across five key areas: structures, mechanisms, electrical systems, cooking and nutrition and textiles. Pupils will design and make products that have real purpose, in a variety of contexts. We aim to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. Design Technology involves real "life skills" for example problem solving, taking risks and considering their own needs as well as those of others. In addition; decision making, adapting, understanding how things works and how they are made, being innovative and resourceful, being able to understand the principles of nutrition and learning how to cook. Children will draw on knowledge and skills from other subjects such as mathematics, science, engineering, computing and art. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.
Our Implementation	Our curriculum organises the Design and Technology attainment targets under four subheadings: • Design • Make • Evaluate • Technical knowledge The curriculum is split into six key areas that pupils revisit: Cooking and nutrition, mechanisms/mechanical systems, structures, textiles, electrical systems (KS2 only) and digital world (KS2 only).

	Pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each of our key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. This is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning.
The Impact	The impact can be constantly monitored through formative and summative assessment opportunities. Children's knowledge and understanding of each module will be summatively assessed using the module's 'Unit Quiz' or the 'Knowledge Catcher'. The children will be given an answer sheet to use to record their answers, which will be placed in their design and technology folder. In KS1, prior knowledge is revisited and assessed during continuous provision. Being able to access recourses related to what they have learned in their Design and Technology lessons enables the children to build upon and enhance their skills and knowledge. In KS2, prior knowledge is re-visited during planned starters in Design and Technology lessons, to ensure children are building on what they already know. We aim for pupils to leave school equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society.

National Curriculum				
EYFS				
Communication & Language	**Personal, Social & Emotional Development**	**Physical Development**	**Expressive Arts & Design**	**Understanding the World**
Speaking: - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary - Offer explanations for why things might happen.	Managing Self: - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.	Fine Motor: - Use a range of small tools, including scissors, paint brushes and cutlery.	Creating with Materials: - 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	The Natural World: - Explore the natural world around them, making observations and drawing pictures of animals and plants.
Key Stage 1				

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

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

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
• Design purposeful, functional and 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.
Key Stage 2				

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

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

Design	Make	Evaluate	Technical Knowledge	Cooking and nutrition
• 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.

Learning
(fundamental skills – what will be constantly revisited?)

	Structures	Mechanisms (KS2: Mechanical Systems)	Textiles	Electrical systems	Digital World	Cooking & Nutrition
EYFS	Explore junk modelling, tinkering with temporary and permanent joins, and a range of materials. Create basic models to test in different conditions.	Explore a simple paper slider mechanism.	Explore and develop threading and weaving skills with different materials and objects.			Explore and become familiar with different fruits and vegetables, using their senses.
KS1	Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.	Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.			Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.
KS2	Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures.	**Mechanical Systems** Extend pupils understanding of individual mechanisms, to form part of a functional system, for example: Automatas, that use a combination of cams, followers, axles/shaft, cranks and toppers.	Understand that fabric can be layered for effect, recognising the appearance and technique for different stitch and fastening types, including their: • Strength.	Create functional electrical products that use series circuits, incorporating different components such as bulbs, LEDs, switches, buzzers and motors.	Learn how to develop an electronic product with processing capabilities. Apply Computing principles to program functions within a product including to control and monitor it.	Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods. Understand what is meant by seasonal foods.

			• Appropriate use. • Design.	Consider how the materials used in these products can: • Protect the circuitry. • Reflect light. • Conduct electricity. • Insulate.	Understand how the history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today.	Know where and how ingredients are sourced.

Key Learning

EYFS	**Structures**	**Cooking & Nutrition**	**Textiles**	**Structures**	
	Junk Modelling Exploring materials through junk modelling, children develop their scissor skills and awareness of different materials and joining techniques. Children begin to make verbal plans and material choices before starting and problem solve while making their model.	Soup Learning about vegetables and where they come from while preparing to make a soup. Children describe the taste of a range of vegetables and design a soup recipe as a class. They practise cutting skills and prepare the vegetables for their class soup before testing the final product.	Bookmarks and Teddy Developing fine motor skills through a range of threading activities before moving on to use binka and a needle. Children design a bookmark and teddy, considering what to include and why and then follow their designs to complete their bookmarks.	Boats Considering the properties of materials through water play, children discover which materials are waterproof and whether they float or sink. Children evaluate a variety of boats and use their new-found knowledge to design and make a boat that is waterproof and floats.	
	Bug Hotel Designing and making a bug hotel, children consider the function of a product.	Sliding Pictures Creating a sliding mechanism chimney picture, children Soup (5 lessons) develop their cutting and joining skills.	Flower Threading Creating their own threading cards, children practise using scissors and a hole punch.	Hanging Decoration Designing a hanging egg decoration, children make choices about how to decorate.	Fruit kebabs Researching, designing and making a colourful and healthy fruit kebab.

	Key Vocabulary: EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6					
	Textiles: Thread Weave Pinch Push Pull Through Under Over Up Down Pattern	Structures: Boats Waterproof Material Absorb Leak Wet Dry Prediction Variable Fair test Experiment Investigation	Structures: Junk Modelling Join Stick Cut Bend Slot Smooth Bendy Bumpy	Cooking and Nutrition: Seeds Roots Leaves Stem Plant Flower Bud Juicy Sweet Sour Dry Wet Bitter Chewy Watery		
Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
		Structures/ mechanisms	**Mechanisms**	**Mechanisms**	**Textiles**	**Cooking & Nutrition**
	★ Continuous Provision: Set up continuous provision tailored to the Design and Technology topic.	Constructing a windmill Design, decorate and build a windmill for a mouse (client) to live in, develop an understanding of	Making a moving story book Experiment with sliders before planning and making three pages of a moving story book,	Wheels and Axles Learn about the main components of a wheeled vehicle. Develop understanding of how wheels, axles	Puppets Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale.	Smoothies **Design:** Design smoothie carton packaging using simple drawings and discussion.

		different types of windmill, how they work and their key features. Look at real existing examples and the functions that they carry out. **Design:** Communicate a windmill design through talking and basic drawings. **Make:** Follow a design and choose and use materials to: ❖ Find the middle of an object. ❖ Puncture holes. ❖ Add weight to a structure. ❖ Create supporting structures. ❖ Cut evenly and carefully. **Evaluate:**	based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it. **Design:** Design a moving story book for a given audience by talking and using basic drawings. Explain how to adapt mechanisms, using bridges or guides to control the movement. **Make:** Follow a design to create moving models that use levers and sliders. **Evaluate:** Review the success of a product by testing it against its design criteria. Test a finished product, see whether it moves as planned and if not,	and axle holders work; problem-solve why wheels won't rotate; to design and build their own vehicle designs. **Design:** Design clearly labelled drawings that illustrate movement, including wheels, axles and axle holders, which will allow the wheels to move. **Make:** Create a mechanism with wheels and axels that move by following a design and choosing and using appropriate materials. **Evaluate:** Evaluate and improve a product. Test mechanisms, identify what stops wheels from turning and know that a wheel needs an axle to move.	Develop technical skills of cutting, glueing, stapling and pinning **Design:** Use a template to create a design for a puppet. **Make:** Follow a design and choose and use materials to: ❖ Cut fabric neatly with scissors. ❖ Use joining methods to decorate a puppet. ❖ Sequence steps for construction. **Evaluate:** Reflect on a finished product, explaining likes and dislikes. **Technical:** To know that 'joining technique' means connecting two pieces of material together.	**Make:** Follow a method and choose appropriate tools to: ❖ Chop fruit and vegetables safely to make a smoothie. ❖ Juice fruits to make a smoothie. ❖ Identify if a food is a fruit. ❖ Learn where and how fruits and vegetables grow. **Evaluate:** Taste and evaluate different foods. Describe appearance, smell and taste. Suggest information to be included on packaging. **Technical:** To know that a blender is a machine which mixes ingredients together into a smooth liquid.

		Explore and evaluate a range of existing products. Evaluate and improve a product. **Technical:** To know that the sails or blades of a windmill are moved by the wind. To know that windmills are used to generate power and were used for grinding flour. To know that a structure is something built for a reason. To know that stable structures do not topple. To know that adding weight to the base of a structure can make it more stable. Provision: ★ Provide the pupils with a variety of materials (recycled) and joining methods. (e.g. paper, card,	explain why and how it can be fixed. **Technical:** To know that a mechanism is the parts of an object that move together. To know that a slider mechanism moves an object from side to side. To know that a slider mechanism has a slider, slots, guides and an object. To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. Provision: ★ Provide children with all the materials and tools needed to create a moving story book.	**Technical:** 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. Provision: ★ Children have access to a range of toy vehicles and different wheels and axels. Open-ended questions to ask children to create their own vehicle.	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 Provision: ★ Provide the pupils with a variety of materials (recycled) and joining methods. (e.g. felt, fabric, glue, scissors, buttons etc.)	To know that a fruit has seeds and a vegetable does not. To know that fruits grow on trees or vines. To know that vegetables can grow either above or below ground. To know that vegetables are any edible part of a plant. Provision: ★ Provide the pupils with a variety of toy foods and kitchen utensils. ★ Provide children with a range of seeds to water and grow. ★ Extra-curricular trips. You could plan to take the pupils to see what happens in the world of production, material sourcing, invention and mechanisms

		scissors, glue, lollypop sticks etc.)				★ As overflow time to complete units where other school events takeover or to provide more time for classes to complete projects.

M&D Sticky Knowledge

Design: Communicate a design through talking and basic drawings.

Make: Make by following their design independently.
Choose and use tools and materials from a given selection.

Evaluate: Answer simple questions about how an existing product works.
Say what they like/dislike and how they can improve a product.

Technical knowledge: Explore methods of making a structure stronger e.g. shape of structure, materials.
Make a simple moving mechanism.

Cooking and Nutrition: Name and sort healthy/unhealthy foods.
Cut food safely.

Year 1 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

		Structures	Mechanisms	Mechanisms	Textiles	Cooking and Nutrition
		Client	Sliders	Assemble	Decorate	Blender
		Design	Mechanisms	Axle	Design	Carton
		Evaluation	Adapt	Axle holder	Fabric	Fruit
		Net	Design Criteria	Chassis	Glue	Healthy
		Stable	Design	Design	Model	Ingredients
		Strong	Input	Evaluation	Hand puppet	Peel
		Test	Model	Fix	Safety pin	Peeler

		Weak Windmill	Template Assemble Test	Mechanic Mechanism Model Sliders Stencil Target audience Template Test Wheel	Staple Stencil Template	Recipe Slice Smoothie Stencil Template Vegetable
Year 2 ★ Continuous Provision: Set up continuous provision tailored to the Design and Technology topic.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Mechanisms –	**Textiles**	**Structures –**	**Mechanisms –**	**Cooking and Nutrition**	★ Celebrate KS1's achievements in D&T, with a gallery of their products. Rotate the classes and ask them to provide feedback and ask questions to their peers ★ Set an invention challenge with scrap and recycled materials. Provide the pupils with a variety of textures and joining methods before sharing their ideas ★ Extra-curricular trips. You could plan to take the pupils to see what happens in the world of production, material sourcing, invention and mechanisms
	Making a moving monster After learning the terms: pivot, lever and linkage, pupils design a monster that will move using a linkage mechanism. Pupils practise making linkages and experiment with various materials to bring their monsters to life. **Design:** Design a product (monster) with a linkage system.	**Pouches** Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch. **Design:** Design a product (pouch) based on design criteria and use a template. **Make:** Select tools and fabrics for sewing.	**Baby Bears chair** Using the tale of Goldilocks and the Three Bears as inspiration, pupils help Baby Bear by making him a brand-new chair, exploring different shapes and materials. When designing the chair, they consider his needs and what he likes. **Design:** Generate and communicate a design for a product (chair)	**Fairground Wheel** Design and create a functional Ferris wheel, consider how the different components fit together so that the wheels rotate, and the structure stands freely. Select appropriate materials and develop their cutting and joining skills. **Design**:	**A balanced diet** Explore and learn what forms a balanced diet. pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy. **Design:** Design three wrap ideas that would be appealing products. **Make:** Choose utensils and ingredients	

	Make: Use a range of tools and materials to: ❖ Make linkages using card for levers and split pins for pivots. ❖ Experiment with linkages, adjusting the properties of card used. ❖ Cut and assemble components neatly. **Evaluate:** Evaluate the product against design success criteria. Use peer feedback to modify the final design. **Technical:** To know that mechanisms are	Thread a needle. Sew a running stitch. Pin and cut fabric. **Evaluate:** Discuss as a class the success of their stitching against the success criteria. Identify aspects of their peers' work that they particularly like and explain why. Evaluate the quality of the stitching on others' work. **Technical:** Know that sewing is a method of joining fabric. Know that different stitches can be used when sewing Understand the importance of tying a knot after sewing the final stitch. ★ Continuous Provision: Provide children with split	using sketching and modelling. **Make**: Make a structure according to design criteria by selecting appropriate tools and materials. Build a strong and stiff structure by folding paper. **Evaluate**: Evaluate the strength, stiffness and stability of own structure. Identify the weakest part of a structure. Explore the features of structures. Compare the stability of different shapes. **Technical**: Understand that the shape of a structure will affect its strength.	Design a product (wheel) following a design criterion. **Make:** Select appropriate materials and tools based on their properties and characteristics to follow a design brief. **Evaluate:** Evaluate, adapt and test a product against design criteria. **Technical:** Know different materials have different properties and therefore are suitable for different uses. Select a suitable linkage system to produce the desired outcome.	appropriately to chop, grate, snip and spread foods to make a wrap which follows a design. **Evaluate:** Taste and evaluate different food combinations and final products. Describe appearance, smell and taste. **Technical**: Know that diet means the foods and drinks a personal or animal normally eats. Know what the five main food groups are and understand the idea of a balanced diet. Continuous Provision: ★ Provide the pupils with a variety of toy foods and kitchen utensils. Provide children with a range of seeds to water and grow.	★ As overflow time to complete units where other school events takeover or to provide more time for classes to complete projects

	a collection of moving parts that work together as a machine to produce movement. To know that there is always an input (energy used to start something) and an output (the movement that happens as a result) in a mechanism. To know that a lever is something that turns on a pivot and that a linkage mechanism is made up of a series of levers. ★ Continuous Provision: Provide children with split pins, card, scissors, glue, colours and hole punches. Enable children to use their learned skills to create their own mechanisms.	pins, card, scissors, glue, colours and hole punches. Enable children to use their learned skills to create their own mechanisms.	Materials can be manipulated to increase strength. "Stable" structures are fixed and firm "strong" structures do not break easily. Learn about different types of structures, found in the natural world and in everyday objects. ★ Continuous Provision: Provide children with different construction materials – Lego, K'Nex, mini bricks, 2D connecting shape etc.	Continuous Provision: ★ Provide the pupils with a variety of materials (recycled) and joining methods. (e.g. paper, card, scissors, glue, lollypop sticks etc.)		
	Sticky Knowledge/ Technical Knowledge					

	Design: Design a product using provided simple design criteria. **Make:** Select and use a range of tools and equipment to cut, shape, join and finish. Measure materials to use in a structure. **Evaluate:** Explain what went well, when making their model. **Technical Knowledge:** Make a model stronger and more stable. **Cooking and Nutrition:** Name the different food groups. Explain what forms a balanced diet. Weigh ingredients to follow a recipe.

Year 2 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

Mechanisms	Textiles	Structures	Mechanisms	Cooking and Nutrition
Axle	Stencil	Test	Design	Healthy
Mechanical	Template	Weak	Design criteria	Ingredients
Mechanism	Fabric	Strong	Wheel	Alternative
Input	Accurate	Stable	Axle	Diet
Decorate	Knot	Function	Axle holder	Balanced diet
Evaluation	Pouch	Man-made	Mechanism	Evaluation
Ferris wheel	Running-stitch	Mould	Ferris Wheel	Expensive
Lever	Sew	Natural	Pods	Nutrients
Linear motion	Shape	Stiff	Frame	Packaging
Linkage	Thimble	Structure		Refrigerator
Motion				Sugar
Oscillating motion				Substitute
Output				
Pivot				
Reciprocating motion				
Rotary motion				
Stable				
Strong				
Survey				
Test				

	Waterproof Weak					
Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Cooking & Nutrition	**Electrical Systems**	**Mechanical Systems**	**Textiles**	**Digital World**	**Structure**
	Eating seasonally Pupils discover when and where fruits and vegetables are grown and learn about seasonality in the UK. They look at the relationship between the colour of fruits and vegetables and their health benefits by making three dishes. **Design:** Use design criteria to create three dishes. **Make:** Chose ingredients based on a design brief. Cut and peel ingredients safely. **Evaluate:** Use design criteria to help test and review dishes. Suggest points for improvement when	Electric poster An introduction to information design and electrical systems, pupils create an electric poster using a basic circuit to develop a museum display about The Romans. **Design**: Research a topic to develop initial ideas. Generate a final design for the electrical poster, considering client. Plan the position of the bulb and its purpose. **Make**: Measure and mark materials using a template or ruler. Fit an electrical component. Learn ways to give the product a higher-quality finish.	Pneumatic toys Design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts. Pupils are introduced to thumbnail sketches and exploded diagrams. **Design**: Design a toy that uses a pneumatic system and develop design criteria from a design brief. Generate ideas using thumbnail sketches and exploded diagrams – understand that different types of drawing are needed to explain ideas clearly. **Make**: Create a toy with a pneumatic	Cross stitch and appliqué (Cushions or Egyptian collars) Introduce two new skills to add to the pupils' repertoire: cross stitch and appliqué. Pupils apply their knowledge to the design, decoration and assembly of their own cushions or Egyptian collars. **Design:** Design and make a template from an existing design and apply individual design criteria. **Make**: Follow design criteria. Select and cut fabrics using fabric scissors. Thread needles and tie knots. Sew cross stitch to join fabric.	Wearable Technology Design, code and promote a piece of wearable technology to use in low light conditions, developing their understanding of programming to monitor and control products to solve a design scenario. Problem solve by suggesting potential features on a Micro: bit and justify my ideas. **Design:** Draw and manipulate 2D shapes, using computer-aided design, to produce a point-of-sale badge. Develop design ideas through annotated sketches to create a product concept. Develop design criteria to respond to a design brief, following a list of design requirements. **Make:**	Constructing a Roman Fort Learning about the features of a castle, pupils design and make one of their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets before constructing a stable base. **Design:** Design a castle with key features to appeal to a specific purpose. Draw and label a design using 2D shapes. Design and decorate a castle using CAD software. **Make:** Construct a range of 3D geometric shapes using nets. Create special features for individual designs and make facades from a range of recycled materials.

	making a seasonal tart. **Technical:** Describe how climate affects where things grow and identify seasonal ingredients from the UK. Describe the benefits of seasonal fruits and vegetables and the impact on the environment. Know that similar coloured fruits and vegetables usually have similar nutritional benefits.	**Evaluate:** Give and accept constructive criticism on a final product. Act on this advice. Test product suitability linked to a design. **Technical:** To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. To list examples of common electric products (kettle, remote control etc.) To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.	system to create a desired motion. Select materials due to their functional and aesthetic characteristics. Manipulate materials to create different effects by cutting, creasing, folding and weaving. **Evaluate**: Use views of others to adapt and improve a design. Test and modify a product and suggest improvement. **Technical**: To understand how a pneumatic system works and that they can be used as part of a mechanism. Know that pneumatic systems operate by drawing in, releasing and compressing air.	Decorate fabric. **Evaluate**: Evaluate the end product and think of other ways in which to create similar items. **Technical:** To know that appliqué is a way of mending or decorating a textile by applying smaller pieces of fabric. To know that when two edges of fabric have been joined together it is called a seam. To know that it is important to leave space on the fabric for the seam. To understand that some products are turned inside out after sewing so the stitching is hidden.	Write a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm. **Evaluate:** Analyse and evaluate an existing product. Use feedback from peers to improve a design. **Technical:** To know that a 'loop' is code that repeats something again and again until stopped. To know that a micro: bit is a pocket-sized, codable computer. To know that a simulator can 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.	**Evaluate**: Evaluate own work based on the aesthetic and the comparison of the original product and the design. **Technical:** To understand that wide and flat based objects are more stable. To understand the importance of strength and stiffness in structures.

					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.	
	Sticky Knowledge/ Technical Knowledge					
	Design • Design, decorate and assemble a product with appliqué. **Make** • Follow a step-by-step plan • Select the most appropriate tools and techniques for a given task. • Make a product which uses mechanical components • Work accurately to measure, make cuts and holes **Evaluate** • Adapt and modify their idea and product based on feedback and design criteria. **Technical Knowledge** • Use handmade nets and recycled materials to strengthen, stiffen and reinforce. **Cooking and Nutrition** • Accurately explain what is meant by seasonality in terms of fruit and vegetables. • Know how to be hygienic when cooking.					

Year 3 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

	Cooking and Nutrition	Electrical Systems	Mechanical Systems	Textiles	Digital World	Structure
	Nutrients Climate Dry climate Exported Imported Mediterranean Nationality Polar climate Recipe Seasonal food Seasons Temperate climate Tropical climate	Battery Bulb Circuit Circuit component Crocodile wires Electrical product Electrical system Final design Information design Initial ideas Peer assessment Research Self-assessment Sketch	Mechanism Output Pivot Motion Input Lever Linkage Exploded diagram Function Net Pneumatic system Thumbnail sketch	Stencil Decorate Fabric Template Running-stitch Accurate Applique Cross-stitch Cushion Detail Patch Seam Stuffing Target audience Target customer	Analogue Badge CAD Control Design requirements Develop, Digital Digital revolution Digital world Display Electronic Electronic products Fasten, Feature Function, Initiate Key features Layers, Loops Micro: bit Monitor, Net Point of sale Product Product design Program Sense, Simulator Smart wearables Stand Technology Template Test, User	Weak Stable Strong Net Design criteria Evaluate Structure 2D shapes 3D shapes Castle Façade Feature Flag Recyclable Scoring Tab
Year 4	Autumn 1 **Electrical systems**	Autumn 2 **Cooking & Nutrition**	Spring 1 **Mechanical systems**	Spring 2 **Digital World**	Summer 1 **Structure**	Summer 2 **Textiles**

	Torches (*links with science*) Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria. **Design:** Design a torch, considering the target audience and creating both design and success criteria, focusing on features of individual design ideas. **Make:** Make a torch with a working electrical circuit and switch. Use appropriate equipment to cut and attach materials. Assemble a torch according to the design and success criteria.	Adapting a recipe Work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit ensuring that their creation comes within the given budget of overheads and costs of ingredients. **Design**: Design a biscuit with a given budget. Conduct market research. Identify a target audience. **Make:** Follow a baking recipe. Adapt a recipe. **Evaluate**: Evaluate and compare a range of products. Evaluate an adapted recipe. Suggest modifications. **Technical:** Know that the amount of an ingredient in a recipe	Making a slingshot car Transform lollipop sticks, wheels, dowel and straws into a moving car. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets. **Design:** Design a shape that reduces air resistance. Draw a net to create a structure from. Choose shapes that increase or decrease speed as a result of air resistance. Personalise a design. **Make:** Measure, mark, cut and assemble with increasing accuracy. Make a model based on a chosen design.	Mindful moments timer Design, program, prototype and brand a Micro: bit timer to a specified number of minutes. Pupils carry out research and existing product analysis to determine how a programmable product could be personalised to their needs. **Design:** Write design criteria for a programmed micro:bit timer. Explore mindfulness strategies. Follow a list of design requirements. Develop a prototype case for a mindful moment timer. Investigate and analyse a range of timers by comparing their	Pavilions (*links with English*) Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding. **Design:** Design a stable pavilion structure that is aesthetically pleasing and select materials to create a desired effect. Create a design in accordance with a plan. Select appropriate materials to build a strong structure and for the cladding. **Make:** Build frame structures designed to support weight. Create a range of different shaped frame structures.	Fastenings (*links with English*) Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate use. **Design:** Write design criteria for a product, articulating decisions made. Design a personalised item. **Make:** Measure, mark and cut fabric using a paper template. Work neatly by sewing small, straight stitches. Select a stitch style to join fabric. Sew neatly using small regular stitches.

	Evaluate: Evaluate electrical products. Test and evaluate the success of a final product. **Technical:** To understand that electrical conductors are materials that electricity can flow through and that electrical insulators are materials that electricity cannot pass through. Know that a battery contains stored electricity that can be used to power products. Know that an electrical system must be complete for electricity to flow. Know that a switch can be used to complete and break a circuit.	is known as the 'quantity'. Know that safety and hygiene are important when cooking. Understand the following cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping. **Technical:** Know that the amount of an ingredient in a recipe is known as the 'quantity'. Know that safety and hygiene are important when cooking. Understand the following cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping.	**Evaluate**: Evaluate the speed of a final product based on the effect of shape on speed and the accuracy of workmanship on performance. **Technical:** Know that all living things have kinetic energy. Know that kinetic energy is the energy something has by being in motion. Know air resistance is the level of drag on an object as it is forced through the air. Know that the shape of a moving object will affect how it moves dur to air resistance.	advantages and disadvantages. **Make**: Produce a logo using computer-aided design software (CAD) by manipulating shapes and clipart. Create a 3D product using modelling materials. **Evaluate:** Document and evaluate a project. Evaluate a programme against design criteria and amend them to include any changes made. Test a programme for bugs (errors in the code). Find and fix bugs (errors in the code). Use an exhibition to gather feedback and to give and receive suggestions. **Technical:** Understand what a logo is and why they	Make a variety of free-standing frame structures of different shapes and sizes. Select appropriate materials to build a strong structure and for the cladding. Reinforce corners to strengthen a structure. **Evaluate:** Evaluate structures made by the class. Describe what characteristics of design and construction made it most effective. **Technical:** To understand what a frame structure is. To know that a 'free-standing' structure is one that can stand on its own. To know that a pavilion is a decorative building or structure for leisure activities. To know that cladding can be applied to structures for different effects.	Incorporate a fastening to a design. **Evaluate**: Test and evaluate a final product against the original design criteria. **Technical:** Know that a fastening is something that holds two pieces of material together. Know that different fastening types are useful for different purposes. Know that creating a prototype of their design is useful for checking proportions and ideas.

				are important in the world of design and business. Understand what variables are in programming. Know some of the features of a micro:bit. Know that an algorithm is a set of instructions to be followed by the computer. Know that it is important to check code for errors and that a simulator can be one way of doing this. Understand the terms: 'ergonomic' and 'aesthetic'. Know that a prototype is a 3D model made from cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials.	To know that aesthetics is how a product looks.	

Sticky Knowledge/ Technical Knowledge

Design

- Use research to inform the design of innovative, functional, appealing products.

Make

- Select and use materials according to their properties and qualities.
- Measure accurately.

Evaluate

- Evaluate products for both their purpose and appearance
- explain how the original design has been improved

Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Understand and use a simple circuit as part of an electrical system.

Cooking and nutrition

- Know how to be hygienic and safe when cooking.
- Read and understand food label.

Year 4 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

Electrical Systems	Cooking and Nutrition	Mechanical Systems	Digital World	Structure	Textiles
Battery	Ingredients	Mechanism	Template	Evaluation	Template
Bulb	Evaluation	Design	Loop	Design criteria	Stencil
Buzzer	Adapt	Design criteria	Design	Stable	Design criteria
Cell			Develop	Structure	Fabric

	Component Conductor Copper Design criteria Electrical item Electricity Function Insulator Series circuit Switch Test Torch Wire	Budget Cooling rack Creaming Equipment Flavour Method Net Packaging Prototype Quantity Recipe Rubbing Sieving Target audience Unit of measurement Utilities	Net Aesthetic Air resistance Chassis Function Graphics Kinetic energy Structure	CAD 2D Advantage Assemble Block Brand identity Branding Bug Cheap Clipart Coding Criteria Debug Disadvantage Ergonomic Evaluate Form Function Instructions Join Logo Mindfulness Model Net Pause Process Program Prototype Research Sketchpad Test Timer User Variable	Aesthetic Cladding Frame structure Function Inspiration Pavilion Reinforce Target audience Target customer Texture Theme	Running stitch Target audience Target customer Aesthetic Assemble Book sleeve Evaluation Fastening Mock-up Net
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

Year 5	Mechanical systems	Digital world	Structures	Electrical Systems	Textiles	Cooking & Nutrition
	Making a pop-up book Create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction. **Design:** Design a pop-up book which uses a mixture of structures and mechanisms. Name each mechanism, input and output accurately. Storyboard ideas for a book. **Make:** Follow a design brief to make a pop up book, neatly and with focus on accuracy. Make mechanisms and/or structures using sliders, pivots	Monitoring Devices Program a Micro: bit animal monitoring device that will alert the owner when the temperature is not optimal. Develop 3D CAD skills by learning how to navigate the Tinkercad interface and essential tools. **Design:** Research (books, internet) for a particular animal's needs. Develop design criteria based on research. Generate multiple housing ideas using building bricks. Understand what a virtual model is and the pros and cons of traditional and CAD modelling. **Make:**	Bridges After learning about various types of bridges and exploring how the strength of structures can be affected by the shapes used, create their own bridge and test its durability - using woodworking tools and techniques. **Design:** Design a stable structure that can support weight. Explain why selecting appropriate materials is an important part of the design process. Select appropriate tools and equipment for tasks. **Make:**	Doodlers Design and make a functional series circuit, incorporating a motor. Carry out product analysis to look at the purpose of a product with its strengths and weaknesses. Alter a product's form and function by tinkering with its configuration. **Design:** Identify factors that could be changed on existing products and explain how these would alter the form and function of the product. Develop design criteria based on findings from investigating existing products. Develop design criteria that	Stuffed toys Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch. **Design**: Design a stuffed toy considering the main component shapes required and create an appropriate template. Consider the proportions of individual components. **Make:** Create a 3D stuffed toy from a 2D design. Measure, mark and cut fabric accurately and independently. Create strong and secure fabric stiches when joining fabric. Thread needless independently. Use applique to attach pieces of fabric decoration. Sew blanket stick to join fabric, leaving the spaces between the	Developing a Recipe **Design:** Research existing recipes. Write an alternative recipe. Analyse nutritional content. Design a jar label. **Make:** Use preparation skills. Make a developed recipe. **Evaluate:** Suggest alternative ingredients. **Technical:** Explain the farm to fork process. Understand cross-contamination. Know that recipes can be adapted to suit nutritional needs and dietary requirements. Know that nutritional information is found on food packaging and that food packaging serves many purposes.

	and folds to produce movement. Use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. **Evaluate:** Evaluate the work of others and receive feedback on own work. Suggest points for improvement. **Technical:** To know that mechanisms control movement. To understand that mechanisms 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	Programme to monitor the ambient temperature and code an (audible or visual) alert when the temperature moves out of a specified range. Place and manoeuvre 3D objects, using CAD. Change the properties of, or combine one or more, 3D objects using CAD. **Evaluate:** Explain key functions in my program (audible alert, visuals). Explain how my product's programmed features would be useful for an animal carer. **Technical:** Understand the functional and	Create a frame structure with a focus on triangulation. Make a range of different shaped beam bridges. Use correct techniques to saw safely. Independently mark and measure wood accurately. Use triangles to create truss bridges that span a given distance and support a load. Identify where structures need reinforcement and use card corners for support. Build a wooden bridge structure. **Evaluate:** Adapt and improve own bridge structure by finding points of weakness and re-enforcing them where necessary. Suggest	clarifies the target user. **Make:** Alter a product's form and function by tinkering with its configuration. Make a functional series circuit, incorporating a motor. Construct a product with consideration for the design criteria. Break down the construction process into steps so that others can make the product. **Evaluate:** Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. Determine which parts of a product affect its function and which parts affect its form.	stiches regular and even. **Evaluate**: Test and evaluate an end product, giving points for further improvement. **Technical:** Know that blanket stich is useful to re-inforce the edges of a fabric material or to join two pieces of material. Understand that it is easier to finish simple designs to a higher standard. To know that soft toys are often made by creating appendages separately and then attached to the main body after. To know that small, neat stiches which are pulled apart are important to ensure that the soft toy is strong and holds the stuffing securely.	

	am going to design and make. To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.	aesthetic properties of plastics. State an event or fact from the last 100 years of plastic history. Explain how plastic is affecting planet Earth and suggest ways to make more sustainable choices.	points for improvement for own bridge and others'. **Technical:** Understand basic wood functional properties. 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.	Analyse whether changes in configuration positively or negatively affect an existing product. Peer evaluate a set of instructions to build a product. **Technical:** To know that, in a series circuit, electricity only flows in one direction. To know when there is a break in a series circuit, all components turn off. To know that an electric motor converts electrical energy into rotational movement, causing the motor's axle to spin. To know a motorised product is one which uses a motor to function.		

Sticky Knowledge/ Technical Knowledge

Design

generate, develop, model and communicate their ideas through discussion, annotated sketches

Make

- Make a prototype and revise to create a final version

Evaluate

- Evaluate appearance and function against original criteria

Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Use pulleys and gears

Cooking and nutrition:

Design a recipe using accurate understanding of seasonal produce

Year 5 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

Mechanical Systems	Digital World	Structures	Electrical Systems	Textiles	Cooking and Nutrition
Template	Monitor	Test	circuit component	Template	Ingredients
Mechanism	Electronic	Evaluation	series circuit	Accurate	Nutrient
Input	Model	Reinforce	configuration	Annotate	Nutrition
Design criteria	Alert	Abutment	current	Appendage	Balanced
Design	Ambient	Accurate	develop	Blanket-stitch	Evaluate
Output	Boolean	Arched bridge	DIY	Design criteria	Nutritional value
Pivot	Consumables	Beam bridge		Detail	Adaptation

	Exploded-diagram Function Computer-aided design (CAD) Structure Aesthetic Caption Design brief Linkage Motion Prototype Slider	Decompose Development Device Duplicate Durable Inventor Lightweight Man-made Manipulate Manoeuvre Microplastics Monitoring device Moulded Plastic pollution Programming comment Programming loop Reformed Replica Research Sensor Strong Sustainability Synthetic Thermometer Thermoscope Value Variable Versatile Water-resistant Work plane	Coping saw File Mark out Material properties Measure Predict Research Sandpaper Set square Suspension bridge Tenon saw Truss bridge Wood	investigate motor motorised problem solve product analysis stable target user	Evaluation Fabric Sew Shape Stuffed toy Stuffing	Abattoir Beef Brand Cook Cross-contamination Cut Design Enhance Equipment Farm Grate Hygiene Label Measure Preference Press Process Recipe Safety Theme
Year 6	Autumn 1 **Cooking & Nutrition**	Autumn 2 **Textiles**	Spring 1 **Mechanical systems**	Spring 2 **Digital world**	Summer 1 **Structures**	Summer 2 **Electrical systems**

	Come dine with me Research and prepare a three-course meal and taste-test and score their food. Research the journey of their main ingredient from 'farm to fork' or write a favourite recipe. **Design:** Write a recipe, explaining the key steps, method and ingredients. Include facts and drawings from research undertaken. **Make:** Follow a recipe, including using the correct quantities of each ingredient. Adapt a recipe based on research. Work to a given timescale. Work safely and hygienically with independence.	Waistcoats Select fabrics, use templates, pin, decorate and stitch materials together to create a waistcoat for a person or purpose of their choosing. Create or use a pattern template to fit a desired person or item (e.g. teddy bear). **Design:** Design a waistcoat in accordance with a specification and design criteria to fit a specific theme. Annotate designs. Use a template when pinning panels onto fabric. **Make:** Mark and cut fabric accurately, in accordance with a design. Sew a strong running stitch, making small, neat	Automata toys Use woodworking skills, pupils construct an automata; measuring and cutting their materials, assembling the frame, choosing cams and designing the characters that sit on the followers to form an interactive shop display. **Design:** Experiment with a range of cams and create a design for an automata toy based on a choice of cam to create a desired movement. Understand and draw cross-sectional diagrams to show the inner-workings of my design. **Make:**	Navigating the world Program a navigation tool to produce a multifunctional device for trekkers. Combine 3D virtual objects to form a complete product concept in 3D computer-aided design modelling software. **Design:** Write a design brief from information submitted by a client. Develop design criteria to fulfil the client's request. Develop a product idea through annotated sketches. Consider materials and their functional properties, especially those that are sustainable and recyclable (for	Playground Design and create a model for a new playground featuring five apparatus, made from three different structures. Using a footprint as the base, practise visualising objects in plan view and get creative including natural features. **Design:** Design a playground featuring a variety of different structures, giving consideration to how the structures will be used. Consider effective and ineffective designs. **Make:** Build a range of play apparatus structures drawing upon new and prior knowledge of structures. Measure, mark and cut wood to create a range of structures. Use a range of materials to reinforce	Steady hand game Design and create a steady hand game, use nets to create the bases and apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle makes contact with the wire. **Design:** Design a steady hand game, identifying and naming the components required. Draw a design from three different perspectives. Generate ideas through sketching and discussion. Model ideas through prototypes. Understand the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. **Make:**

	Evaluate: Evaluate a recipe, considering: taste, smell, texture and origin of the food group. Taste test and score final products. Suggest and write up points of improvements in productions. Evaluate health and safety in production to minimise cross contamination. **Technical:** 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 'processed food' means food that has been put through multiple changes in a factory. To know that it is important to wash	stitches and following the edge. Tye strong knots. Decorate a waistcoat – attaching objects using thread and adding a secure fastening. Learn different decorative stitches. Sew accurately with even regularity of stitches. **Evaluate:** Evaluate work continually as it is created. **Technical:** To understand that it is important to design clothing with the client/target customer in mind. To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric. To understand the importance of consistently sized stitches.	Measure, mark and cut components accurately using a ruler and scissors. Assemble components accurately to make a stable frame. Understand that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles. Select appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set. **Evaluate:** Evaluate the work of others and receiving feedback on own work. Apply points of improvement to their toys. Describe changes they would make/do	example, cork and bamboo). Explain material choices and why they were chosen as part of a product concept. **Make:** Place and manoeuvring 3D objects, using CAD. Change the properties of, or combine one or more 3D objects, using CAD. Programme an N,E, S,W cardinal compass. **Evaluate:** Explain how my program fits the design criteria and how it would be useful as part of a navigation tool. Develop an awareness of sustainable design. Explain the key functions and features of my navigation tool to	and add decoration to structures. **Evaluate:** Improve a design plan based on peer evaluation. Test and adapt a design to improve it as it is developed. Identify what makes a successful structure. **Technical:** To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. To understand that in the real world, design can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea.	Construct a stable base for a game. Accurately cut, fold and assemble a net. Decorate the base of the game to a high-quality finish. Make and test a circuit. Incorporate a circuit into a base. **Evaluate:** Test their own and others' finished games, identifying what went well and make suggestions for improvement. Gather images and information about existing children's toys. Analyse a selection of existing children's toys. **Technical:** To know that 'form' means the shape and appearance of an object.

	fruit and vegetables before eating to remove any dirt and insecticides. To know what happens to a certain food before it appears on the supermarket shelf (farm to fork).		if they were to do the project again. **Technical:** To understand that the mechanism in an automata uses a system of cams, axles and followers. To understand that different shaped cams produce different outputs. To know that an automata is a hand-powered mechanical toy. To know that a cross-sectional diagram shows the inner workings of a product. Understand how linkages change the direction of a force.	the client as part of a product concept pitch. Demonstrate a functional program as part of a product concept. **Technical:** 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 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		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'.

				Earth's magnetic field to determine which direction you are facing.		

Sticky Knowledge/ Technical Knowledge

Design

Use 'market research' to inform plans.

- Justify plans using evidence.

Make

- Use any tool correctly and safely.
- Explain why a specific tool is appropriate for a chosen task.

Evaluate

- Evaluate appearance, function and assembly using criteria.

Technical knowledge

- To use electrical systems correctly to enhance a product.
- Use knowledge to improve a made product by strengthening, stiffen or reinforcing.

- **Cooking and nutrition**
- Work safely and hygienically with independence.
- Create a savoury dish using all taught skills of weighing, chopping and mixing.

Year 6 Key Vocabulary

EYFS, Year 1, Year 2, Year 3, Year 4, Year 5, Year 6

	Cooking and Nutrition	Textiles	Mechanical Systems	Digital World	Structures	Electrical Systems
	ingredients	Template	Model	3D	Evaluation	Battery
	cross-contamination	Design	Axle	CAD	Strong	Circuit
	recipe	Fabric	Function	Function	Texture	Component
	equipment	Accurate	Accurate	Function	Reinforce	Conductor
	balance	Sew	Assembly-diagram	Feature	Measure	Copper
	bitter	Shape	Automata	Application (apps)	Adapt	Insulator
	bridge method	Running-stitch	Bench hook	Biodegradable	Apparatus	Function
	complement	Seam	Cam	Boolean	Bench hook	Design criteria
	cookbook	Target audience	Clamp	Cardinal compass	Cladding	Assemble
	enhance	Target customer	Component	Client	Coping saw	Battery pack
	farm to fork	Annotate	Cutting list	Compass	Design	Benefit
	flavours	Adapt	Diagram	Concept	Dowel	Bulb
	method	Design criteria	Dowel	Convince	Feedback	Bulb holder
	research	Detail	Drill bits	Corrode	Idea	Buzzer
	pairing	Fastening	Exploded-diagram	Duplicate	Jelutong	Circuit symbol
	preparation	Knot	Finish	Environmentally friendly	Landscape	Design
	salty	Properties	Follower	Equipment	Mark out	Evaluation
	sour	Thread	Frame	Finite	Modify	Fine motor skills
	storyboard	Unique	Hand drill	Functional	Natural materials	Fit for purpose
	sweet	Waistcoat	Jelutong	GPS tracker	Plan view	Form
	umami	Waterproof	Linkage	If statement	Playground	Gross motor skills
			Mark out	Infinite	Prototype	LED
			Measure	Investment	Sketch	User
			Mechanism	Lightweight	Structure	
				Loop	Tenon saw	
			Research	Manufacture	User	
			Right-angle	Materials (wood, metal, plastic etc.)	Vice	
			Set square	Mouldable		
			Tenon saw	Navigation		
				Non-recyclable		
				Product lifecycle		
				Product lifespan		

				Program Recyclable Smart Sustainable Sustainable design Unsustainable Design Variable Work plane		