



Brookside Primary School - OUR DESIGN TECHNOLOGY CURRICULUM

Our Aspirations

At Brookside Primary School, we provide the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work. We implement two important elements of Design and Technology education - learning about the designed and made world and how things work, and learning to design and make functional products for particular purposes and users. We aim to inspire pupils to continue to learn and apply the skills they learn at secondary school, university, and beyond in the workplace.

National Curriculum

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The national curriculum for design and technology aims to ensure that all pupils:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and work of others
- Understand and apply the principles of nutrition and learn how to cook.

Our Curriculum

Our Design and Technology curriculum develops children's skills and knowledge in structures, mechanisms, Textiles, cooking and nutrition, electrical systems, and the digital world. It encourages children's creativity and encourages them to think about important issues. It enables children and young people to actively contribute to the creativity, culture, wealth and well-being of themselves, their community and their nation. It teaches how to take risks and so become more resourceful, innovative, enterprising and capable.

At Brookside children will experience a variety of different progressive and linkable skills and techniques, this ensures that children are constantly building upon previous learning and are able to expand their knowledge and understanding of problem solving, designing and constructing different products. Children will complete three units of Design and Technology each year.

Our Curriculum Design

A key consideration with the organisation of our curriculum has had to be our mixed age classes, to ensure that no matter of their route through school, our pupils cover all the knowledge and skills required. In EYFS our pupils are in a single age year group, which enables all the knowledge and skills to be embedded within a set of units in a yearly cycle. However, in KS1 and KS2, to ensure that pupils do not repeat the same units each of these classes follow a separate 2-year cycle. Which ever route a child navigates through KS2 we have ensured all pupils cover all national curriculum components. This is crucial, as when pupils enter KS2 there are 4 different routes a pupil might take across their time in our school, which are highlighted below.

	Pupil A	Pupil B	Pupil C	Pupil D
EYFS	Hoot	Hoot	Hoot	Hoot
Y1	Tawny	Tawny	Tawny	Tawny
Y2	Tawny	Tawny	Tawny	Tawny
Y3	Barn	Barn	Barn	Barn
Y4	Barn	Eagle	Barn	Eagle
Y5	Bay	Eagle	Eagle	Bay
Y6	Bay	Bay	Bay	Bay

What does DT Teaching Look Like?

We follow a broad and balanced Design and Technology curriculum that builds on previous learning and provides both support and challenge for learners. We follow a Design and Technology scheme that ensures and progression of skills and covers all aspects of the Design and Technology curriculum. One project is taught each term. Design and Technology is taught as a discreet subject.

Our curriculum is split into six areas; cooking and nutrition, Mechanical systems, structures, Textiles, Electrical Systems, and Digital World. Each units of work follow the Design sequence of Design, Make and Evaluate.

The importance of Design and Technology

At Brookside we strive to design a curriculum that is accessible for all children. Design and Technology is about providing opportunities for children to develop their capability. D&T is often a child's favourite subject. Children like making decisions for themselves and undertaking practical work. They love creating products they can see, touch and even taste for themselves. D&T allows children to feel a sense of pride in what they have developed. D&T education is one particular area of the Curriculum which allows a great deal of pupil creative expression and non-verbal communication. Therefore, we aim to use the area of Design, Art and Craft as a means of supporting children with Special Educational Needs to develop their own learning skills and levels of personal self-esteem.

Health and Safety

At Brookside we provide a well-managed, safe environment in which our school community can learn. We recognise that in teaching certain practical elements of D&T to pupils, safety is a crucial issue. It is vital to us that appropriate safety precautions must be taken. This is achieved by all members of staff recognising health and safety in classroom organisation, in cohesion with using modelling to show how to use the equipment provided. Observing the pupils in small groups helps overcome the problems of safety when using potentially dangerous D&T equipment. Children will be introduced to the correct techniques for handling equipment and will develop these techniques as they progress through the school. The co-ordinator is always available to guide staff in the safest ways of using various equipment.

Design Technology Long Term Plan

	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Tawny (Year One/Two)	Cooking and Nutrition: Balanced Diet	Mechanisms: Fairground wheel	Textiles: Pouches	Structures: Constructing a windmill	Textiles: Puppets	Cooking and nutrition: Smoothies
Barn (Year Three/Four)	Cooking and nutrition: Eating seasonally	Digital world: Wearable Technology	Structures: Constructing a castle	Textiles Cross Stitch Cushions	Mechanical systems: Pneumatic Toys	Electrical systems: Electric Poster
Eagle (Year Four/Five)	Cooking and nutrition: Developing a recipe	Digital world: Monitoring Devices	Structures: Bridges	Textiles Stuffed Toys	Mechanical systems: Making a slingshot car	Electrical systems: Torches
Bay (Year Five/Six)	Cooking and nutrition: Come Dine with Me	Digital world: Navigating the World	Structures: Playgrounds	Textiles Waistcoats	Mechanical systems: Automata toys	Electrical systems: Steady Hand Game

	Year A			Year B		
Tawny	Autumn	Spring	Summer	Autumn	Spring	Summer
Units	Cooking and Nutrition: 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.	Mechanisms: Fairground wheel Design and create a functional Ferris wheels, 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.	Textiles: Pouches Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch.	Structures: Constructing a windmill Construct a windmill to complete a request from a user. Develop an understanding of different types of windmill, how they work and their key features. Begin to use technical skills such as making evenly spaced cuts and adding weight to ensure a successful structure.	Textiles: Puppets Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale. Develop technical skills of cutting, glueing, stapling and pinning.	Smoothies Handle and explore fruits and vegetables and learn how to identify fruit, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.

	Year A			Year B		
Barn	Autumn	Spring	Summer	Autumn	Spring	Summer
Units	Cooking and nutrition: Eating seasonally Pupils discover when and where fruits and vegetables are grown and learn about seasonality in the UK. They respond to a design brief to design a seasonal food tart using ingredients harvested in the UK.	Digital world: 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	Structures: Constructing a castle 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.	Textiles Cross Stitch Cushions 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.	Mechanical systems: 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. Pupil are introduced to thumbnail sketches and exploded diagrams.	Electrical systems: Electric Poster An introduction to information design and electrical systems, pupils create an electric poster using a basic circuit to develop a museum display.

	Year A			Year B		
Eagle	Autumn	Spring	Summer	Autumn	Spring	Summer
Units	Cooking and nutrition: Developing a recipe Research and modify a traditional bolognese sauce recipe to improve the nutritional value. Cook improved version and create packaging that fits design criteria. Learn about where beef comes from.	Digital world: 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.	Structures: 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.	Textiles Stuffed Toys Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch.	Mechanical systems: 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.	Electrical systems: Torches 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.

	Year A			Year B		
Bay	Autumn	Spring	Summer	Autumn	Spring	Summer
Units	Cooking and nutrition: 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' and write a favourite recipe.	Digital world: 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.	Structures: Playgrounds 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.	Textiles 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).	Mechanical systems: 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.	Electrical systems: 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.

The big ideas

The six key areas are revisited, with Electrical systems and Digital world beginning in KS2. This makes it easy for teachers to see prior and future learning.

EYFS, Key Stage 1 and 2

Cooking and nutrition

Where food comes from, balanced diet, preparation and cooking skills. Kitchen hygiene and safety. Following recipes.

Mechanisms/ Mechanical systems

Mimic natural movements using mechanisms such as cams, followers, levers and sliders.

Structures

Material functional and aesthetic properties, strength and stability, stiffen and reinforce structures.

Textiles

Fastening, sewing, decorative and functional fabric techniques including cross stitch, blanket stitch and appliqué

Key Stage 2

Electrical systems

Operational series circuits, circuit components, circuit diagrams and symbols, combined to create various electrical products.

Digital world

Program products to monitor and control, develop designs and virtual models using 2D and 3D CAD software.

Our Design Technology Big Ideas

Pupils return to the big ideas during their time in primary school. Each time it is revisited it is covered with greater complexity, prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again. Each child will complete each big idea twice through Key Stage Two with all Key Stage One Areas visited again.

	Cooking and nutrition	Mechanisms	Structures	Textiles	Electrical systems	Digital world
Year 1/2	Balanced diet Smoothies	Ferris wheels	Windmills	Pouches Puppets		
Year 3/4	Eating seasonally	Pneumatic Toys	Castles	Cross Stitch Cushions	Electrical Poster	Wearable Technology
Year 4/5	Developing a recipe	Making a Slingshot Car	Bridges	Stuffed Toys	Torches	Monitoring Devices
Year 5/6	Come Dine with us	Automata toys	Playgrounds	Waistcoats	Steady Hand game	Navigating the World

How our Design Technology Curriculum meets the National Curriculum

National curriculum Design and technology content/coverage =KS1	Design and technology strands	Windmills	Puppets	Smoothies	Balanced Diet	Fairground Wheel	Pouches
Design purposeful, functional, appealing products for themselves and other users based on design criteria.	Design	/	/	/	/	/	/
Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology.	Design	/	/	/	/	/	/
Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].	Make	/	/	/	/	/	/
Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	Make	/	/	/	/	/	/
Explore and evaluate a range of existing products.	Evaluate	/			/	/	/
Evaluate their ideas and products against design criteria.	Evaluate	/	/	/	/	/	/
Build structures, exploring how they can be made stronger, stiffer and more stable.	Technical Knowledge	/				/	
Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	Technical Knowledge	/				/	
Use basic principles of a healthy and varied diet to prepare dishes.	D/M/E				/		
Understand where food comes from.	D/M/E			/	/		

[illegible]

Apply their understanding of computing to program, monitor and control their products.	Technical Knowledge		/						/			/	/		/			/	
Understand and apply principles of a healthy and varied diet.	DME	/										/							/
Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.	DME	/										/							/
Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	DME	/										/							/

Progression of skills in Design Technology

STRUCTURES		Windmills	Castles	Bridges	Playgrounds
Skills	Design	- Learning the importance of a clear design criteria. - Including individual preferences and requirements in a design.	- Designing a castle with key features to appeal to a specific person/purpose. - Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours. - Designing and/or decorating a castle tower on CAD software.	- Designing a stable structure that is able to support weight. - Creating a frame structure with a focus on triangulation.	Designing a playground featuring a variety of different structures, considering how the structures will be used, considering effective and ineffective designs.
	Make	Making stable structures from card. Following instructions to cut and assemble the supporting structure of a windmill. Making functioning turbines and axles which are assembled into a main supporting structure. Finding the middle of an object. Puncturing holes. Adding weight to structures. Creating supporting structures. Cutting evenly and carefully.	Constructing a range of 3D geometric shapes using nets. Creating special features for individual signs. Making facades from a range of recycled materials.	- Making a range of different shaped beam bridges. - Using triangles to create truss bridges that span a given distance and support a load. - Building a wooden bridge structure. - Independently measuring and marking wood accurately. - Selecting appropriate tools and equipment for particular tasks. - Using the correct techniques to saws safely. - Identifying where a structure needs reinforcement and using card corners for support. - Explaining why selecting appropriating materials is an important part of the design process. - Understanding basic wood functional properties.	- Building a range of play apparatus structures drawing upon new and prior knowledge of structures. - Measuring, marking and cutting wood to create a range of structures. - Using a range of materials to reinforce and add decoration to structures.
	Evaluate		- Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison, to the original design. - Suggesting points for modification of the individual designs.	- Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary. - Suggesting points for improvements for own bridges and those designed by others.	- Improving a design plan based on peer evaluation. - Testing and adapting a design to improve it as it is developed. - Identifying what makes a successful structure.

Knowledge	Technical	- To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). - To understand that axles are used in structures and mechanisms to make parts turn in a circle. - To begin to understand that different structures are used for different purposes. - To know that a structure is something that has been made and put together. - To know that the sails or blades of a windmill are moved by the wind. - 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.	- To understand that wide and flat based objects are more stable. - To understand the importance of strength and stiffness in structures.	- 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 properties. To understand the material (functional and aesthetic) properties of wood.	To know that structures can be strengthened by manipulating materials and shapes.
	Additional	- To know that design criteria is a list of points to ensure the product meets the clients needs and wants. - To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. - To know that windmill turbines use wind to turn and make the machines inside work. - To know that a windmill is a structure with sails that are moved by the wind. - To know the three main parts of a windmill are the turbine, axle and structure. To know that windmills are used to generate power and were used for grinding flour.	- To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. - To know that a façade is the front of a structure. - To understand that a castle needed to be strong and stable to withstand enemy attack. - To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. To know that a design specification is a list of success criteria for a product.	To understand the difference between arch, beam, truss and suspension bridges. To understand how to carry and use a saw safely.	- 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.

MECHANISMS		Ferris Wheels	Pneumatic Toys	Making A slingshot car	Automata toys
Skills	Design	- Conducting simple surveys or discussions to gather opinions on what others need or like in a design. - Knowing that a survey is used to find out what people like. - Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. - Knowing that a design brief helps to decide what to make. - Knowing that design criteria are the steps for making a product successful. - Creating ideas with design criteria in mind. - Referring to specific parts of existing products when generating ideas. - Knowing that the design criteria help when thinking of ideas. - Using labels to explain parts of a design, label materials, etc. - Using labels to explain parts of a design, label materials, etc. - Knowing that drawings can help explain how something works. - Knowing that a label explains part of a drawing.	- Designing a toy which uses a pneumatic system. - Developing design criteria from a design brief. - Generating ideas using thumbnail sketches and exploded diagrams. - Learning that different types of drawings are used in design to explain ideas clearly.	- Designing a shape that reduces air resistance. - Drawing a net to create a structure from. - Choosing shapes that increase or decrease speed as a result of air resistance. - Personalising a design.	- Noticing wider-reaching problems or needs in the community. - Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. - Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design.
	Make	- Choosing materials, ingredients or components from a wider range of materials, ingredients or components. - Explaining their choices based on the properties of materials and components. - Knowing some properties of materials like hard, soft, flexible, waterproof, strong etc. - Following and recalling simple safety instructions. - Knowing that some tools are sharp like scissors and knives. - Choosing known geometric shapes when making. - Beginning to shape objects to improve how they work. - Knowing the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere.	- Creating a pneumatic system to create a desired motion. - Building secure housing for a pneumatic system. - Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. - Selecting materials due to their functional and aesthetic characteristics. - Manipulating materials to create different effects by cutting, creasing, folding and weaving.	- Measuring, marking, cutting and assembling with increasing accuracy. - Making a model based on a chosen design.	- Producing lists of equipment, materials and tools that they need for a task. - Selecting materials, components or ingredients based on research or user needs. - Explaining their choices, referring to their research. - Considering which equipment will work well together. - Choosing from the known range of equipment available to them with little guidance. - Assessing risks associated with different tools and equipment. - Understanding and explaining the importance of each safety rule. - Consistently apply safety instructions.

		Considering balance in their finishing, like evenly spaced decoration.			- Cutting jelutong or other harder wood with a coping saw or a tenon saw in small groups. - Cutting in a back-and-forth sawing motion where appropriate. - In supervised groups, using hot glue guns safely. - Recognising that hot glue is useful for joining materials that need a strong bond that sets quickly.
	Evaluate	- Discussing a range of existing products and saying what they like and dislike about them. - Evaluating existing products against design criteria. - Evaluating their ideas and creations against simple design criteria. - Knowing that design criteria help to decide if their product is a success. - Suggesting improvements to their peers' designs and products. - Knowing that improve means to make something better. - Knowing that their suggestions can improve someone else's work.	- Using the views of others to improve designs. - Testing and modifying the outcome, suggesting improvements. - Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.	Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.	- Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. - Providing feedback that is helpful, specific and encouraging. - Incorporating feedback from peers or users to improve their product further, explaining the changes they made and the impact they had.
Knowledge	Technical	- To know everyday objects have mechanisms. - To know many things that move have parts inside to help them work. - To know mechanisms usually limit unwanted movement. - To know everyday objects utilise wheels and axles. - To know wheels must be able to turn to work effectively. - To know axles allow wheels to turn without falling off.	- To understand how pneumatic systems work. - To understand that pneumatic systems can be used as part of a mechanism. - To know that pneumatic systems operate by drawing in, releasing and compressing air.	- To know that air resistance is the level of drag on an object as it is forced through the air. - To understand that the shape of a moving object will affect how it moves due to air resistance..	- To know that the mechanism in an automata uses a system of cams, axles and followers. - To know that different shaped cams produce different outputs. - To know which mechanisms are working together to make a mechanical system. - To know that there are different directions of movement. - To know that mechanisms can change one type of movement to another.
	Additional	To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder.	- To understand how sketches, drawings and diagrams can be used to communicate design ideas. - To know that exploded-diagrams are used to show how different parts of a product fit together. - To know that thumbnail sketches are small drawings to get ideas down on paper quickly.	- To know that aesthetics means how an object or product looks in design and technology. - To know that a template is a stencil you can use to help you draw the same shape accurately. - To know that a birds-eye view means a view from a high angle (as if a bird in flight). - To know that graphics are images which are designed to explain or advertise something. - To know that it is important to assess and evaluate design ideas and models against a list of design criteria.	- 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.

Cooking And Nutrition		Smoothies	Balanced Diet	Eating Seasonally	Developing a recipe	Come dine with us
Skills	Design	Designing smoothie carton packaging by-hand or on ICT software.	Designing a healthy wrap based on a food combination which works well together.	Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.	- Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. - Writing an amended method for a recipe to incorporate the relevant changes to ingredients.	- Writing a recipe, explaining the key steps, method and ingredients. - Including facts and drawings from research undertaken.
	Make	- Chopping fruit and vegetables safely to make a smoothie. - Identifying if a food is a fruit or a vegetable. - Learning where and how fruits and vegetables grow.	- Slicing food safely using the bridge or claw grip. - Constructing a wrap that meets a design brief.	- Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination. - Following the instructions within a recipe.	- Cutting and preparing vegetables safely. - Using equipment safely, including knives, hot pans and hobs. - Knowing how to avoid cross-contamination. - Following a step by step method carefully to make a recipe.	- Following a recipe, including using the correct quantities of each ingredient. - Adapting a recipe based on research. - Working to a given timescale. - Working safely and hygienically with independence.
	Evaluate	Suggesting information to be included on packaging.	- Taste testing food combinations and final products. - Describing the information that should be included on a label. - Evaluating which grip was most effective.	- Establishing and using design criteria to help test and review dishes. - Describing the benefits of seasonal fruits and vegetables and the impact on the environment. - Suggesting points for improvement when making a seasonal tart.	- Identifying the nutritional differences between different products and recipes. - Identifying and describing healthy benefits of food groups.	- Evaluating a recipe, considering: taste, smell, texture and origin of the food group. - Taste testing and scoring final products. - Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process. - Evaluating health and safety in production

						to minimise cross contamination.
Knowledge	Technical	• To know that a blender is a machine which mixes ingredients together into a smooth liquid. • To know that a fruit has seeds. • To know that fruits grow on trees or vines. • To know that vegetables can grow either above or below ground. • To know that vegetables is any edible part of a plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber).	• To know that 'diet' means the food and drink that a person or animal usually eats. • To understand what makes a balanced diet. • To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. • To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. • To know that 'ingredients' means the items in a mixture or recipe.	• To know that vegetables and fruit grow in certain seasons. • To know that cooking instructions are known as a 'recipe'. To know that imported food is food which has been brought into the country. • To know that exported food is food which has been sent to another country.. • To know that eating seasonal foods can have a positive impact on the environment. • To know that similar coloured fruits and vegetables often have similar nutritional benefits. • To know that the appearance of food is as important as taste.	• To know that recipes can be adapted to suit nutritional needs and dietary requirements. • To know that I can use a nutritional calculator to see how healthy a food option is. • To understand that 'cross-contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. • To know that coloured chopping boards can prevent cross-contamination. • To know that nutritional information is found on food packaging.	• 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 understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).

Textiles		Puppets	Pouches	Cross Stitch Cushions	Stuffed Toys	Waistcoats
Skills	Design	- Discussing what a good design needs. - Designing a simple pattern with paper. - Designing a bookmark. - Choosing from available materials.	Using a template to create a design for a puppet.	Designing a pouch.	- Designing a stuffed toy, considering the main component shapes required and creating an appropriate template. - Considering the proportions of individual components.	- Designing a waistcoat in accordance to a specification linked to set of design criteria. - Annotating designs, to explain their decisions.
	Make	- Developing fine motor/cutting skills with scissors. - Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. - Using a prepared needle and wool to practise threading.	- Cutting fabric neatly with scissors. - Using joining methods to decorate a puppet. - Sequencing steps for construction.	- Selecting and cutting fabrics for sewing. - Decorating a pouch using fabric glue or running stitch. - Threading a needle. - Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. - Neatly pinning and cutting fabric using a template.	- Creating a 3D stuffed toy from a 2D design. - Measuring, marking and cutting fabric accurately and independently. - Creating strong and secure blanket stitches when joining fabric. - Threading needles independently. - Using appliqué to attach pieces of fabric decoration. - Sewing blanket stitch to join fabric. - Applying blanket stitch so the spaces between the stitches are even and regular.	- Using a template when cutting fabric to ensure they achieve the correct shape. - Using pins effectively to secure a template to fabric without creases or bulges. - Marking and cutting fabric accurately, in accordance with their design. - Sewing a strong running stitch, making small, neat stitches and following the edge. - Tying strong knots. - Decorating a waistcoat, attaching features (such as appliqué) using thread. - Finishing the waistcoat with a secure fastening (such as buttons). - Learning different decorative stitches.

						Sewing accurately with evenly spaced, neat stitches.
	Evaluate	Reflecting on a finished product and comparing to their design.	Reflecting on a finished product, explaining likes and dislikes.	- Troubleshooting scenarios posed by teacher. - Evaluating the quality of the stitching on others' work. - Discussing as a class, the success of their stitching against the success criteria. - Identifying aspects of their peers' work that they particularly like and why.	Testing and evaluating an end product and giving point for further improvements.	Reflecting on their work continually throughout the design, make and evaluate process.
Knowledge	Technical	- To know that a design is a way of planning our idea before we start. - To know that threading is putting one material through an object.	- To know that 'joining technique' means connecting two pieces of material together. - To know that there are various temporary methods of joining fabric by using staples, glue or pins. - To understand that different techniques for joining materials can be used for different purposes. - To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. - To know that drawing a design idea is useful to see how an idea will look.	- To know that sewing is a method of joining fabric. - To know that different stitches can be used when sewing. - To understand the importance of tying a knot after sewing the final stitch. - To know that a thimble can be used to protect my fingers when sewing.	- To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. - To understand that it is easier to finish simpler designs to a high standard. - To know that soft toys are often made by creating appendages separately and then attaching them to the main body. - To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.	- 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.

Electrical Systems		Electrical Poster	Torches	Steady Hand game
Skills	Design	- Carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas. - Generate a final design for the electric poster with consideration to the client's needs and design criteria. - Design an electric poster that fits the requirements of a given brief. - Plan the positioning of the bulb (circuit component) and its purpose.	Designing a torch, considering the target audience and creating both design and success criteria focusing on features of individual design ideas.	- Designing a steady hand game - identifying and naming the components required. - Drawing a design from three different perspectives. - Generating ideas through sketching and discussion. - Modelling ideas through prototypes. - Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'.
	Make	- Create a final design for the electric poster. - Mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear. - Measure and mark materials out using a template or ruler. - Fit an electrical component (bulb). - Learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge).	- Making a torch with a working electrical circuit and switch. - Using appropriate equipment to cut and attach materials. - Assembling a torch according to the design and success criteria.	- Constructing a stable base for a game. - Accurately cutting, folding and assembling a net. - Decorating the base of the game to a high quality finish. - Making and testing a circuit. - Incorporating a circuit into a base.
	Evaluate	- Learning to give and accept constructive criticism on own work and the work of others. - Testing the success of initial ideas against the design criteria and justifying opinions. - Revisiting the requirements of the client to review developing design ideas and check that they fulfil their needs.	- Evaluating electrical products. - Testing and evaluating the success of a final product.	- Testing own and others finished games, identifying what went well and making suggestions for improvement. - Gathering images and information about existing children's toys. - Analysing a selection of existing children's toys.

Knowledge	Technical	- To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. - To understand common features of an electric product (switch, battery or plug, dials, buttons etc.). - To list examples of common electric products (kettle, remote control etc.). - To understand that an electric product uses an electrical system to work (function). - To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.	- To understand that electrical conductors are materials which electricity can pass through. - To understand that electrical insulators are materials which electricity cannot pass through. - To know that a battery contains stored electricity that can be used to power products. - To know that an electrical circuit must be complete for electricity to flow. - To know that a switch can be used to complete and break an electrical circuit.	- To know that batteries contain acid, which can be dangerous if they leak. - To know the names of the components in a basic series circuit, including a buzzer.
	Additional	- To understand the importance and purpose of information design. - To understand how material choices (such as mounting paper to corrugated card) can improve a product to serve its purpose (remain rigid without bending when the electrical circuit is attached).	- To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens. - To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison.	- To know that 'form' means the shape and appearance of an object. - 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'.

Digital World		Wearable Technology	Monitoring Devices	Navigating the world
Skills	Design	- Problem solving by suggesting which features on a Micro:bit might be useful and justifying my ideas. - Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. - Developing design ideas through annotated sketches to create a product concept. - Developing design criteria to respond to a design brief.	- Researching (books, internet) for a particular (user's) animal's needs. - Developing design criteria based on research. - Generating multiple housing ideas using building bricks. - Understanding what a virtual model is and the pros and cons of traditional and CAD modelling. - Placing and manoeuvring 3D objects, using CAD. - Changing the properties of, or combining one or more 3D objects, using CAD.	- Writing a design brief from information submitted by a client. - Developing design criteria to fulfil the client's request. - Considering and suggesting additional functions for my navigation tool. - Developing a product idea through annotated sketches. - Placing and manoeuvring 3D objects, using CAD. - Changing the properties of, or combining one or more 3D objects, using CAD.
	Make	- Following a list of design requirements. - Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.	- Understanding the functional and aesthetic properties of plastics. - Programming to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a specified range.	- Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). - Explaining material choices and why they were chosen as part of a product concept. - Programming an N,E, S, W cardinal compass.
	Evaluate	- Analysing and evaluating wearable technology. - Using feedback from peers to improve design.	- Stating an event or fact from the last 100 years of plastic history. - Explaining how plastic is affecting planet Earth and suggesting ways to make more sustainable choices. - Explaining key functions in my program (audible alert, visuals). - Explaining how my product would be useful for an animal carer including programmed features.	- Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. - Developing an awareness of sustainable design. - Identifying key industries that utilise 3D CAD modelling and explaining why. - Describing how the product concept fits the client's request and how it will benefit the customers. - Explaining the key functions in my program, including any additions. - Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. - Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. - Demonstrating a functional program as part of a product concept pitch.

Knowledge	Technical	- To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. - To know that a Micro:bit is a pocket-sized, codeable computer. - To know that a simulator is able to replicate the functions of an existing piece of technology.	- To know that a 'device' means equipment created for a certain purpose or job and that monitoring devices observe and record. - To know that a sensor is a tool or device that is designed to monitor, detect and respond to changes for a purpose. - To understand that conditional statements (and, or, if booleans) in programming are a set of rules which are followed if certain conditions are met.	- 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.
	Additional	- To know what the 'Digital Revolution' is and features of some of the products that have evolved as a result. - To understand what is meant by 'point of sale display.' - To know that CAD stands for 'Computer-aided design'. - To know what a focus group is by taking part in one.	- To understand key developments in thermometer history. - To know events or facts that took place over the last 100 years in the history of plastic, and how this is changing our outlook on the future. - To know the 6Rs of sustainability. - To understand what a virtual model is and the pros and cons of traditional vs CAD modelling.	- To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. - To know that 'multifunctional' means an object or product has more than one function. - To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.

EYFS

Expressive Arts and Design The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

EAD at Brookside in Hoot Owls

There is a rich tradition at Brookside of quality music and drama. The children have the opportunity to watch the Brass Band to see instruments and hear the sounds they make. We also want children to sing songs, make music, dance and perform. We have regular music lessons and the children take part in 2 productions during their Reception year. Children are given time to play imaginative games and make up stories, songs and dances. Our Music curriculum develops through Charanga, which is a class favourite.

In both Art and Design Technology, the children learn how to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. We want the children to become confident and independent artists/designers who are not afraid to express themselves as an individual. Child-initiated art/DT activities are encouraged during continuous provision as well as art and crafts skills learnt directly. We endeavour that children leave Reception with good art/DT skills, as well as encouraging them to use their own ideas and techniques in their art and design work. The children have the opportunity to see the work of other artists and designers throughout the year.

We strive to make them ready for the more formal art teaching starting in KS1 by them experiencing a range of techniques Painting, Printing, Collage, Clay, Sewing, Observational drawing, and 3D Sculpture. We hold a Design a 'Boat to Float' Challenge, which encourages the children to come up with a boat design using junk modelling. It must carry 4 Compare Bears and float for at least 1 minute (timed). The children discuss adaptations they could make to make it better.

EYFS	EAD
Autumn Andy Goldsworthy Megan Coyle	Art Marvellous Marks (Kapow) – experimenting with different media Paint and Mixed Media – exploring paint and collage DT Seasonal Project (Kapow) – Christmas Sliding Santa Chimney Sewing- Snowman Puppets Music SMS EYFS Music Scheme To sing alone and as part of a group. To move to a pulse, noticing changes in tempo. To maintain tempo (keep a steady beat). To follow a conductor. To sing with increasing confidence To tap a pulse, keep the beat and say names in time. To create and perform rhythm patterns (red and yellow), using body percussion and untuned instruments. Christmas Carol Service Singing songs and rhymes Puppet theatre Nativity – small world
Spring Beth Cavener Julie Wilson	Art 3D Sculpture (Kapow) Creation Station– exploring sculpture to create a 3D panda DT Cooking and Nutrition Soup (Kapow)

	Explore and become familiar with different fruits and vegetables, using their senses. Music SMS EYFS Music Scheme Update pending Use untuned percussion Play by following written symbols cat/monkey Understand Tempo Use tuned percussion Write my own music by using symbols cat/monkey Understand Duration
Summer Tony Castro https://www.tonycastroyachts.com/	Art Craft and Design (Kapow) investigating cutting and joining DT Structure – Boats (Kapow) Testing materials, floating & sinking, designing and creating a boat to float. Explore junk modelling, tinkering with temporary and permanent joins, and a range of materials. Create basic models to test in different conditions. Music SMS EYFS Music Scheme Update pending Create a piece of music in a small group (write and perform) EYFS End of Year Show Move to music and say how I feel

Inclusive Practice

Design Technology Graduated Response for SEND and children not working at ARE

Buff paper, Screen Share, Seating Plan, Move and cushion, weighted blanket, Timetable/timelines, Letter/number formation cards/orientation sheets, Access to word processing/alternative recording, Individual reward chart, Time out cards, Home School communication books, Magnifying glass, Social stories, TEACCH trays for independence.

Spring action scissors and adult support with scissors, 1:1 support with tools, guide hands to cut up, use a saw etc, Pre hole punched templates/pre-cut, matching activities, simplified

Writing Grips, Chunky pencils, Fidget toys, Targeted TA or Teacher Support, enlarged fonts, coloured overlays, High frequency word mats, Printed date and LO, Opportunities to report in different ways, Check ins throughout the lesson. Small group for practical activities, support with tools, additional safety reminders, pre-learn vocab, mixed ability pairings, cooking group.

Visual Timeline, Kagan Cooperative Strategies, Pre-teaching Vocabulary, Mini White boards, Rephrasing questions or content, WAGOLLS, highlighting key points, Dyslexia friendly font- comic Sans, Paired Reading, Verbal reminders and modelling of presentation, Word mats, scaffold sheets, Vocabulary and wall displays (e.g. Phonics), Share question you want them to answer before the information, Achievement certificates, Individual spellings, Movement breaks, Visual prompts, Whiteboard non-white background, Tokens for rewards, I do, we do, you do. Modelled examples. Step by step instructions, word mats, videos to assist explaining/demonstrating, chance to handle and practice with equipment before using

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Design Technology Risk Assessment Autumn 2023

Number	Hazard	Who might be harmed	Preventative Measures	Risk
1	Provision and supervision	Pupils, staff	Class and group sizes should be appropriate to: Room size, class size, staff: pupil ratio, the nature of the activity, pupil age, pupil ability. Health and safety rules and responsibilities should form part of a whole-school set of expectations and should be expressed before each activity that involves an element of risk. Staff and pupils are advised to wear aprons to protect clothing. Staff and pupils are advised to wear appropriate footwear for safe grip and foot protection. Staff and pupils are advised to wear goggles when carrying out activities that use chemicals or generate small fine, loose particles to protect their eyes. Share and warn pupils and staff of the risks involved before and after the activity. Expectations and rules visible in the classroom or working environment.	Low
2	Equipment	Pupils, staff	All equipment must be maintained and monitored before and after each use for wear and damage. All equipment must be recorded in quantity when handing out and returning to storage. Ensure staff understand how to use the equipment in the correct and safe manner, and are aware of any risks. Staff are trained on basic hygiene, health and safety awareness and know the location and/or contact for the school first-aiders.	Low
3	Storage	Pupils, staff	Equipment and substances stored appropriately so they do not present a trip, slip or fall hazard. Heavy equipment stored at an appropriate level. Rags, cotton waste, polyurethane foam or similar materials should not be allowed to	Low

			accumulate or be stored near naked flames, hot objects or immediately against electrical equipment.	
4	General: Substances and COSHH (i.e. ink, glue, fixatives)	Pupils, Staff	All highly flammable substances (i.e. fixatives) should be stored in suitably labelled, lockable metal storage containers or cupboards. Inventory of chemicals used within the subject that identifies the quantity stored, includes material safety data sheets, identifies the level of risk from them and if there is a requirement to undertake a specific COSHH risk assessment. Refer to COSHH (Control of Substances Hazardous to Health) for further advice. Communicate known risks from chemicals to the relevant people who may be exposed to any risk, including teaching, cleaning staff and pupils. Only low hazard paints and inks used where possible. Food should not be consumed or brought into work areas where chemicals are used.	Low
5	Kitchen classroom* (*or, other area in which you teach and prepare food with the pupils)	Pupils Staff	Staff and pupils will be instructed and trained how to be safe in the kitchen classroom (i.e. no running, no walking around with sharp equipment). Staff and pupils will be instructed and trained on good food hygiene in the kitchen classroom (i.e. washing hands thoroughly before and after each activity, cross-contamination). Pupils bags and equipment kept away from working areas in the kitchen. Staff supervision of pupils. Staffing ratios are appropriate to the size of class and age of pupils. Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition. General surrounding and immediate area kept clear of obstacles and in a tidy organised state. Electrical equipment will be monitored and maintained regularly; PAT tested annually. Equipment will be used correctly to prevent cross-contamination (i.e. coloured	Low

			chopping boards for different foods such as raw meats). Long-hair must be tied back and put into a bun if longer than shoulder-length.	
6	Kitchen classroom*: Sharp implements (i.e. knives, peelers)	Pupils Staff	Staff must store sharp implements in a locked cupboard or room. Staff must monitor the quantity of sharp implements handed out and returned before and after each activity. Staff and pupils must be able to remove and replace sharp implements safely, with their blade and handle clearly visible, in and out of their container. Pupils must be taught the correct techniques for using sharp implements under strict supervision by staff. Pupils must be instructed not to leave sharp implements in the sink when washing up.	Medium
7	Kitchen classroom*: Electric blenders and liquidisers	Pupils Staff	Staff must assemble or disassemble electric blenders and liquidisers. Staff must wash the blades from an electric blender and liquidiser. Electrical equipment must be appropriately monitored and maintained regularly; PAT tested annually.	Medium
8	Kitchen classroom*: Oven and cooker hobs	Pupils Staff	Staff and pupils to be clear about the safe and appropriate use of an oven and the hob, including the risks they present. Staff to consider pupils' ability, height and age before allowing them to use an oven and/or the hob. Oven gloves must be used to place food in the oven/grill and when removing it, under strict staff supervision. Oven doors must be kept closed unless food is being placed in or taken out.	High
9	Kitchen classroom*: Food storage and advice	Pupils, staff, parent(s)/carer(s)	Hot food should be cooled quickly and stored in the fridge within 1-2 hours. Pupils and parents will be advised of the appropriate reheating methods and possible allergens if taking home. Finished dishes must be stored appropriately until they are ready for the pupils to	Low

			consume or take home. Completed dishes not collected after 48 hours, or 24 hours for rice dishes, will be disposed of. Ingredients must be stored and labelled appropriately.	
10	Slips, trips, and falls	Pupils Staff	Staff supervision of pupils . Staffing ratios are appropriate to the size of class and age of pupils. Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition. General surrounding and immediate area kept clear of obstacles and in a tidy organised state. Pupils bags and equipment kept away from working areas in the classroom.	Low
11	Allergies to chemicals, materials, and ingredients	Pupils, Staff	Staff are aware of the school first aiders. Staff watch for adverse and undiagnosed reactions. Staff are aware of any pupils or staff with diagnosed allergies and plan accordingly	Medium
12	Use of glue, fixatives, and adhesives** (**including but not limited to, all points made in reference number 4)	Pupils, Staff	Staff supervision of pupils. Pupils instructed and understand to use appropriate amounts of glue. Water-based, non-toxic formulation only – No solvent-based. Approved products for children only. No super-glue or wallpaper paste containing fungicides. Spray adhesives used by staff only, highly flammable, and toxic. Must be used in well-ventilated areas away from children. Heavy vapour adhesives used by staff only. Behaviour expectations are expressed before activities proceed.	Low
13	Burns, due to glue guns and hot components	Pupils, Staff	Low-melt glue guns are considered safer than their hot-melt alternatives. If hot-melt glue guns are to be used, these should only be used by older children under close supervision. Behaviour expectations expressed before activities proceed.	Medium

14	General hygiene - balloons	Pupils, staff	When using balloons, staff should ensure hygienic procedures are followed. Do not share mouthpieces. A hand pump should be used if available for inflating balloons. Behaviour expectations expressed before activities proceed.	Low
15	Cuts, punctures, lacerations, and pinches from cutting and shaping implements (i.e. scissors, pliers)	Pupils. Staff	Staff supervision of pupils. Round-ended school scissors only, staff-use only for fabric and point-ended scissors. Cutting and shaping implements must not be left unattended, and should be counted in and out of storage. It is recommended to store cutting and shaping implements in a safe, secure place. Damaged or faulty cutting and shaping implements to be immediately discarded in a safe and sensible manner. When punching holes through materials, pupils should use a pointed pencil to press into a soft, pliable material such as soft tack or a large rubber. Screwdrivers and/or bradawls are not recommended for punching holes in materials. Where possible, use a hole punch or hand paper drill for creating holes. Where applicable, cutting boards or mats should be used. Pupils to be taught how to carry scissor blades closed and held in a gripped palm, never carried with blades pointing outwards. Left-handed tools should be offered to left handed pupils; right-handed tools should be offered to right-handed pupils. Behaviour expectations expressed before activities proceed.	Low
16	Sewing, needlework and fabric choices	Pupils, staff	Staff supervision of pupils. Pupils are taught how to use a needle and thread in the correct and safe manner. Cotton and other threads must be cut using scissors, never teeth and set by example.	Low

			Material choices must be considered carefully, thick and dense materials can lead to excessive pressure being applied to the needle and thread which can result in puncture injuries. Choose single layer, looser materials such as felt, cotton and Aida cloths for guided cross-stitch. If denser materials are to be used, thimbles/thimblettes can protect pupils' fingers from injury. Behaviour expectations expressed before activities proceed.	
17	Use of tenon saws (with bench hooks) and/or coping saws (with vices) to cut wood	Pupils, staff	Staff strict supervision of pupils. All pupils must be taught how to use the saws and holds in the correct and safe manner. Pupils must be set up with adequate space between stations for sawing, right-handed pupils will need more space to the left and left-handed to the right. Fine dust and wood particles may enter the air when sawing wood, if possible, provide pupils with goggles to protect their eyes. The area must be well ventilated, and the pupils must understand not to blow loose particles after sawing. Ensure that pupils are able to secure the wood properly on bench hooks before proceeding to cut. G-clamps to secure the bench hook to the desk or corner bench hooks, which prevent sideways movement, can help with this. All tenon saws (with bench hooks) and/or coping saws (with vices) must be accounted for when handed-out and returned, and stored in a safe, secure location away from children. Behaviour expectations expressed before activities proceed.	High
18	Hand drills and drill bits; and other portable power tools	Pupils, staff	Staff strict one-to-one supervision of pupils. Staff must change the drill bit, ensuring that it is secure and square before proceeding. All pupils must be taught how to use the hand drill in a correct and safe manner; without applying too much pressure to the drill, with the work-piece secured appropriately. Pupils must be set up with adequate space between stations for drilling, right-handed	High

			pupils will need more space to the left and left-handed to the right. Fine dust and wood particles may enter the air when drilling into wood, if possible, provide pupils with goggles to protect their eyes. The area must be well ventilated, and the pupils must understand not to blow loose particles after sawing. Hand drills must be set to the lowest speed to reduce vibration and prevent loss of control. Hand drills must be monitored and well-maintained, they must be accounted for when handed-out or returned, and stored in a safe, secure location away from children. Behaviour expectations expressed before activities proceed. To prevent entanglement, over-garments must be removed and long sleeved shirts rolled up - aprons are preferable to protect clothing from swarf/dust, but to also hold back any loose elements on clothing. Long-hair must be tied back and put into a bun if longer than shoulder-length. Ensure that pupils are able to secure the wood properly on bench hooks before proceeding to drill. G-clamps to secure the bench hook to the desk or corner bench hooks, which prevent sideways movement, can help with this. Behaviour expectations expressed before activities proceed.	
19	Clay	Pupils, staff	Pupils must thoroughly wash their hands before and after using clay. Staff supervision of pupils. Staffing ratios should be appropriate to the size of class and age of pupils. Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition. General surrounding and immediate area kept clear of obstacles and in a tidy, and organised state. Any cutting and shaping tools used to work the clay must be appropriate for the age group and with no sharp edges. Consider all points made in reference 8 'Allergies to chemicals, materials and ingredients'. Consider all points made in reference 12 'Cuts, punctures, lacerations, and pinches from cutting and shaping implements'.	Low

20	Paint	Pupils, staff	Staff are aware of the school first aiders. Staff watch for adverse and undiagnosed reactions. Staff are aware of any pupils or staff with diagnosed allergies and plan accordingly. Pupils must thoroughly wash their hands before and after using paint. Staff supervision of pupils. Staffing ratios are appropriate to the size of class and age of pupils. Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition. General surrounding and immediate area kept clear of obstacles and in a tidy, and organised state. Water-based paints recommended.	Low
21	Crocodile clip pinches	Pupils Staff	Staff supervision of pupils. Instruction the pupils on appropriate and acceptable behaviour when working with crocodile clips All pupils must be taught how to use the crocodile clips in a correct and safe manner.	Low
22	Plug sockets (mains electricity)	Pupils Staff	Staff supervision of pupils. Staff are aware of the school first aiders. All electrical equipment should be PAT tested to ensure that they are safe to use. If there are visible defects with the equipment, do not continue to use it, this includes the cables and plug socket as well as damage to the device itself. Pupils are made aware of the risks of putting objects and wet hands near/into electrical sockets Ensure that pupils know the dangers of mains electricity	High
23	Batteries (cell, button, coin etc.)	Pupils, staff	All staff and pupils must be taught the dangers of misusing batteries; including the knowledge that empty or 'dead' batteries still present the level of risk. Assess batteries before use for any deterioration and leakages, if present dispose of immediately and appropriately Remove batteries from any electrical circuits and systems after	High

			use Store all batteries in a locked and labelled safe location away from pupils Count all batteries out to the pupils and back in after use Keep new, unused batteries in their original packaging If you suspect that a pupil has swallowed a battery, they must attend the nearest Accident and Emergency immediately.	
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