Clifton All Saints Academy

Curriculum Subject Map

Design & Technology EYFS-Year 6

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS 3-4 yrs	Personal, Social and Emotional Development			• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.		
	Physical Development			• Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors.		
	Understanding the World			• Explore how things work.		
	Expressive Arts and Design			• • Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects.		
EYFS Reception	Physical Development			• Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.		
	Expressive Arts and Design			• Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.		

	KS1	Kapow Primary https://www.kapowprimary.com/					
	KS2	Kapow Primary https://www.kapowprimary.com/					
EYFS	**Rec'**	**Beware of the Bears**	**Let's Celebrate**	**Winter/Marvellous Me**	**Walking with Dinosaurs**	**Around the World**	**Telling a Tale**
KS1	**Y1**	**A walk in the woods** Food – Fruit and Veg	**Peering into the Past** Textiles - Puppets	**Best of British** Structures – Constructing a Windmill	**British Explorers** Mechanisms – Story Book	**Wonderful Weather** No DT	**Marvellous Me!** Mechanisms – Wheels & Axles
	Y2	**Wonderful World** No DT	**Fire! Fire!** A Balanced Diet	**Heroes & Heroines** Baby Bear's Chair	**Dragons & Eggs** Making a Moving Monster	**Zambia** Pouches	**To be Beside the Sea** Fairground Wheel
KS2	**Y3**	**Awesome Earth** No DT	**Reach for the Stars** Textiles - Cushions	**Metals & Magnets** Electrical Systems – Static Electricity	**Food Glorious Food** Food – Eating Seasonally	**Once Upon a Fairytale** Structure – Constructing a Castle	**Water, Water, Everywhere!** Mechanical Systems – Pneumatic Toys
	Y4	**Raging Rivers!** Structures - Pavilions	**Locked Up!** Making a Slingshot Car	**Cook Well, Eat Well** Food – Adapting a Recipe	**Exciting Egyptians** Mindful Moments Timer	**Ruthless Romans** Fastenings – A Roman Purse	**Angry Earth** Torches
	Y5	Digital World – Monitoring Devices	**Sensational Space** Mechanical systems – pop up book	**Heroes of Science** Food – What could be Healthier?	**Invaders** Electrical Systems – Electronic Greeting Card	**The Animal Kingdom** Construction - Bridges	**Warriors!** Textiles – Stuffed Toys
	Y6	Digital World – Navigating the World	Food – Come Dine with Me	Structure - Playgrounds	Textiles - Waistcoats	Electrical Systems – Steady Hand Game	Mechanical Systems – Automata Toys

AUTUMN 1						
EYFS						
	Select and use activities and resources, with help when needed. 3-4 Chn to explore their environment and the resources. Can they make their own choices of activities based on their interests? **Explore different materials freely, in order to develop their ideas about how to use them and what to make.** 3-4 Adult-led- Making bear pictures	**Develop their small motor skills so that they can use a range of tools competently, safely and confidently**. 3-4 During child-led time can the children hold and control pencils, pens and paintbrushes? Staying for lunch Children to use knives, forks and spoons to successfully eat their meals. **Explore different materials freely, in order to develop their ideas about how to use them and what to make.** 3-4 Chn to explore the arts and crafts table.	**Develop their small motor skills so that they can use a range of tools competently safely and confidently.** REC Name writing. Can the children hold and use a pencil to write their name? Which hand do they use? What type of grip? **Talk about the differences between materials and changes they notice.** 3-4 Linking to Goldilocks and the three bears chn to follow a recipe to make porridge. How can they make it too lumpy or too smooth? Chn to explore the toppings to go with the porridge		**Explore, use and refine a variety of artistic effects to express their ideas and feelings.** REC Creating autumnal pictures using different colours and techniques. Children to create using paint, craft and natural resources	**Develop their small motor skills so that they can use a range of tools competently, safely and confidently.** REC Chn to use scissors correctly to snip and cut straight lines. Supply a range of scissors and craft scissors for the chn to use to cut along straight and curvy lines. **Explore different materials freely, in order to develop their ideas about how to use them and what to make.** 3-4 Children to use the art and crafts resources to create artwork of their choosing.
	AUTUMN 2					
EYFS	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently. REC • Progress towards a more fluent style of moving, with developing control and grace. • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Create collaboratively sharing ideas, resources and skills					

	Learning to move with style and grace when learning an Indian dance. https://www.youtube.com/watch?v=1a3SBLJPMWQ Safely and competently use scissors to create lanterns Can the children Work together to build a bridge, listening to how they could approach the task?	Children to develop their gross motor skills by dancing with ribbons- making circular motions. Can the children adjust the size and speed of the movements to represent different fireworks?		Safely and competently use scissors to create paper chains Watch clips of line dancing and hiphop, talk about and compare the dances to other familiar dancing.		Safely and competently use scissors to create Christmas ListsChildren to cut the pictures from catalogues. Dance freely and in time to music during our Christmas party.

Y1						
Aut 1	**Food – Fruit & Veg** Kapow - food					
Knowledge Organiser	**To identify if food is a fruit or vegetable.** Understand where food comes from	**To identify where plants grow and which part we eat.** Understand where food comes from	**To taste and compare fruit and vegetables.** Explore and evaluate a range of existing products	**To make a smoothie**. **Cooking and nutrition** Use the basic principles of a healthy and varied diet **Design** - Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology **Make** - 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 **Evaluate** - Evaluate their ideas and products against the design criteria	**Evaluation** Food Evaluation - slides Food Evaluation - Knowledge Capture Food Evaluation - pupil quiz template	

Vocab	Fruit, vegetable, seed, leaf, root, stem, carton, design, flavour, healthy, peel, slice, smoothie					
Focus	Children handle and explore fruit and vegetables and learn how to identify which category they fall into, before undertaking taste testing to establish their chosen ingredients for the smoothie they will make and design packaging for.					
Aut 2	**Textiles – Puppets** **Puppets**					
Knowledge Organiser	**To join fabrics together using different methods** Explore and evaluate a range of existing products. Select from and use a wider range of tools and equipment to perform practical tasks)for example, cutting, shaping, joining and finishings), accurately.	**To use a template to create my design.** Design purposeful, functional, appealing products for themselves or 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	**To join two fabrics together accurately.** Design purposeful, functional, appealing products for themselves or other users based on design criteria**.** 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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	**To embellish my design using joining methods.** Design purposeful, functional, appealing products for themselves or other users based on design criteria**.** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]**.** Evaluate their ideas and products against design criteria	**Evaluation** **Puppets Evaluation - slides** **Puppets Evaluation - Knowledge Capture** **Puppets Evaluation - pupils quiz template**	
Vocab	Design, equipment, glue, inspiration, method, safety pin, technique, template, design criteria, fabric,					

Focus	Children explore different ways of joining fabrics before creating their own hand puppets based upon characters from a well know fairy tale. Throughout they work to develop their technical skills of cutting, glueing, stapling and pinning.

Y2						
Aut 1	**DT not taught this half term**					
Vocab						
Focus						
Y2						
Aut 2	**Food – A Balanced Diet** **Food**					
Knowledge Organiser		**To know what makes a balanced diet** Understand where food comes from Use the basic principles of a healthy and varied diet to prepare dishes Explore and evaluate a range of existing products	**Taste testing food combinations.** Use the basic principles of a healthy and varied diet to prepare dishes Design purposeful, functional, appealing products for themselves and other users based on design criteria Evaluate their ideas and products against design criteria	**To design a healthy wrap** Design purposeful, functional, appealing products for themselves and other users based on design criteria Evaluate their ideas and products against design criteria	**To make a healthy wrap** Use the basic principles of a healthy and varied diet to prepare dishes Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	**Evaluation** **Food Evaluation - slides** **Food Evaluation - Knowledge Capture** **Food Evaluation - pupil quiz template**
Vocab	Balanced diet, balance, carbohydrate, dairy, fruit, ingredients, oils, sugar, protein, vegetable, design criteria, diet,					
Focus	Throughout their exploration of what makes a balanced diet, children taste test food combinations of different food groups. They will also aim to make a wrap that includes a healthy mix of protein, vegetables and dairy, and learn about the term ‘hidden sugars’.					

Y3						
Aut 1	**DT not taught this half term**					
Key Vocab						
Focus						
Y3						
Aut 2	**Textiles – Cushions** Kapow - Cushions					
Knowledge Organiser		**To learn how to sew cross stitch and applique** Select from and use a range of tools and equipment to perform practical tasks	**To design a product and its template** Design purposeful, functional, appealing products for themselves and other users based on design criteria	**To decorate fabric using applique and cross stitch** Select from and use a range of tools and equipment to perform practical tasks	**Assembling my cushion** Select from and use a range of tools and equipment to perform practical tasks	**Evaluation** **Cushion Evaluation - slides** **Cushion evaluation** **Cushion Evaluation - pupil quiz template**
Vocab	Applique, cross stitch, design, equipment, fabric, patch, running stitch, thread, seam, texture, knot,					
Focus	Having already learned the basics of sewing and decorating fabrics in earlier years, this topic offers extra challenge by introducing two new skills to add to their repertoire: cross stitch and applique. After learning these techniques, they apply their knowledge to the design, decorations and assembly of their very own cushions.					

Y4						
Aut 1	**Structures – Pavilions** **Kapow - Pavilions**					
Knowledge Organiser		**Exploring frame structures** 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 and CAD Select from and use a wider range of materials, components and construction	**To create a range of different shaped frame structures** 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 Investigate and analyse a range of existing products	**To build a frame structure** Select from and use a wider range of tools and equipment to perform practical tasks Select from and use a wider range of materials, components and construction materials according to their functional properties and aesthetics Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	**To add cladding to a frame structure** Select from and use a wider range of tools and equipment to perform practical tasks Select from and use a wider range of materials, components and construction materials according to their functional properties and aesthetics	**Evaluate pavilion** **Pavilions assessment slides** Pavilions Evaluation - knowledge capture Pupil answer sheet

		materials according to their functional properties and aesthetics Investigate and analyse a range of existing products <u>Maths</u> Year 3 – Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them Year 4 – Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes				
Vocab	Design criteria, natural, structure, innovative, 3D shapes, reinforce,					
Focus	Pupils explore pavilion structures, learning about what they are used for and investigating how to create strong and stable structures before also designing and creating their own pavilions, complete with cladding.					
Year 4						
Aut 2	Mechanical Systems – Making a slingshot Car Slingshot Car					

Knowledge Organiser	**To build a car chassis** 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	**To design and shape a car that reduces air resistance** 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 ƒ Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	**To make a model based on a chosen design** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** 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	**To assemble and test my completed product** **Make** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work **Technical knowledge** Apply their understanding of how to strengthen, stiffen	**Evaluation** Slingshot Car Evaluation - slides Slingshot Car - Knowledge Capture Slingshot Car - Pupil quiz template	

			Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]		
Vocab	Chassis, energy, kinetic, mechanism, air resistance, design, structure, graphics, research, model, template					
Focus	Children transform lollipop sticks, wheels, dowels and straws into a moving car. They will be using a glue gun to construct the materials, making the launch mechanism, designing and also making the body of the vehicle using nets and assembling these to the chassis.					

Y5						
Aut 1	Digital World – Monitoring Devices Monitoring Devices					
Knowledge Organiser	**To carry out research to develop design criteria** **Design -** 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 **Evaluate -** Understand how key events and individuals in design and technology have helped shape the world	**To write a program to monitor the ambient temperature including an alert** **Technical knowledge** Apply their understanding of computing to program, monitor and control their products.	**To generate creative and unique micro:bit case, stand and/or housing ideas** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Evaluate** Understand how key events and individuals in design and technology have helped shape the world **Technical knowledge** Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	**To learn about and practise 3D CAD skills** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
Vocab	Monitoring device, monitor, device, electronic, sensor, thermoscope, research, design brief, design criteria, development, inventor, historical, vivarium, programming loop, programming comment, alert, ambient, Boolean, duplicate, copy, value, variable, sustainability, microplastics, decompose, plastic pollution, man-made, synthetic, molecules, reformed, moulded, transparent, opaque, versatile, lightweight, strong, water-resistant, durable, 3D model, consumables, CAD, replica, manoeuvre, manipulate, shape properties, Tinkercad, workplane, group					

Focus	Applying computer knowledge and understanding to program a Micro:bit animal monitoring device that will support animal care and alert their owners when the temperature is not optimal using sound and an LED. Children develop their 3D CAD skills by learning how to navigate the Tinkercad interface and essential tools to combine multiple objects.					
Y5						
Aut 2	Mechanical Systems – Making a Pop-up Book Pop-up Book					
Knowledge Organiser	To design a pop-up book **Design** 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 **Evaluate** Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of	To follow my design brief to make my pop-up book **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** 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	**To use layers and spacers to cover the working of mechanisms** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** 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	**To create a high-quality product suitable for a target user** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** 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		

	others to improve their work **Technical knowledge** 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]	properties and aesthetic qualities **Evaluate** 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 **Technical knowledge** 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]	materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** 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 **Technical knowledge** 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]	components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** 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 **Technical knowledge** 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]		
Focus	After choosing a simple story or nursery rhyme, children create a four-page pop-up storybook design. They will also add accompanying captions, incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers					

Y6						
Aut 1	**Digital World – Navigating the World** **Navigating the World**					
Knowledge Organiser	**To write a design brief and criteria based on a client request** **Design** 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 **Technical knowledge** Apply their understanding of computing to program, monitor and control their products	**To write a program to include multiple functions as part of a navigation device** **Design** 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. **Technical knowledge** Apply their understanding of computing to program, monitor and control their products.	**To develop a sustainable product concept** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To develop 3D CAD skills to produce a virtual model** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To present a pitch to 'sell' the product to a specified client** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	

Focus	Children design a navigational tool to produce a multifunctional device for treckers. They combine 3D objects to form a complete product in CAD 3D modelling software. The unit accumulates with a pitch to share and 'sell' the children's final product concepts and programs to the Adventure awaits company guest panel					
Y6						
Aut 2	Food – Come dine with me Come Dine With Me					
Knowledge Organiser	**To research and design a three-course meal** **Design** - 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 **Cooking and nutrition** - Understand and apply the principles of a healthy and varied diet	**To prepare a meal using a recipe** **To understand where their food comes from** **To write up a recipe** **Cooking and nutrition** - 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 **Make** - 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	**To prepare a meal using a recipe** **To understand where their food comes from** **To write up a recipe** **Cooking and nutrition** - 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 **Make** - 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	**To prepare a meal using a recipe** **To understand where their food comes from** **To write up a recipe** **Cooking and nutrition** - 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 **Make** - 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		

		ingredients, according to their functional properties and aesthetic qualities **Evaluate** - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
Vocab	Equipment, flavours, ingredients, method, research, recipe, bridge-method, cookbook, cross-contamination, farm to fork, flavour, preparation, recipe, storyboard,					
Focus	Working in groups, children research and prepare a three-course meal taught as a rotational activity over three lessons. They will taste-test and score their food and when they aren't cooking, they will research the journey of the main ingredient from 'farm to fork' or write a favourite recipe to include in a class cookbook					

SPRING 1						
EYFS	• Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor • Create collaboratively sharing ideas, resources and skills • Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function					
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
	Develop small motor skills, using a range of tools competently, safely and confidently Using tools and small motor skills to break ice in the ice kingdom Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Create collaboratively sharing ideas, resources and skills Andy Goldsworthy-Ice sculptures. Making sculptures with winter moon dough  	Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor Reminders on how to sit at the table and on the carpet. Kids yoga session Safely use and explore a variety of materials, tools and techniques, experimenting with texture Texture- Sticking a chosen texture to baby bear's chair. Describing the texture e.g. rigid smooth, shiny, 	Create collaboratively sharing ideas, resources and skills Using a construction set or small world toys, children to make a toy community. Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Making skeletons with a cotton buds, straws or pasta 	Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Designing a superhero cape 	Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Self-portraits on paper plates and different resources 	Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Making emergency services vehicles Junk modelling Mobilo Duplo 

	SPRING 2					
EYFS	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently • Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function ELG					
	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Using small tools to chip away at frozen eggs. Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function Share their creations, explaining the process they have used.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Cutting out dinosaur shape pictures	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Making representations of the dinosaurs in the story using their chosen method. Handling tools and equipment such as scissors, brushes, playdough tools etc. Safely use and explore a variety of materials, tools and techniques,	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Using tools and manipulating materials in order to make 3D dinosaur worlds and shoe box habitats. Safely use and explore a variety of materials, tools and techniques, experimenting with	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Digging for dinosaurs, Using small tools to chip away at the fossil. Using a needle and thread to sew a pair of underpants.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently Using small motor skills to place and stick 'dinosaur bones' to a template. Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function

	Choosing how to approach a piece of Spring artwork. Do they choose the right colours and tones? Can they apply the technique to get their desired outcome? 		experimenting with design, form and function Looking at Louise Nevelson-3D modelling with recycled goods Making a 3D dinosaur 	design, form and function Share their creations, explaining the process they have used. Making a Shoe box dinosaur habitat with a friend 		Creating dinosaur skeleton pictures with a cotton buds, straws, pasta, loose parts Can the chn refine their skills since making skeletons last half term? 

Y1						
Spr 1	Structures – Constructing a Windmill					
Knowledge Organiser	**To include individual preferences and requirements in my design** Design - Design purposeful, functional, 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 Evaluate - Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	**To make a stable structure** 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, according to their characteristics Build structures, exploring how they can be made stronger, stiffer and more stable Evaluate their ideas and products against design criteria	**To assemble the components of my structure** 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 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	**To evaluate my project and adapt my design** **Evaluate** - Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria **Technical knowledge** - 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		
Vocab	Axle, bridge, design, design criteria, model, net, packaging, structure, template, unstable, stable, net, strong, weak					
Focus	Inspired by the song, Mouse in a Windmill, children design, decorate and build a windmill for their mouse client to live in, developing an understanding of different types of windmill, how they work and their key features					
Y1						
Spr 2	Mechanisms – Making a Moving Storybook Making a Moving Storybook					
Knowledge Organiser	**To explore making mechanisms**	**To design and moving storybook**	**To construct a moving picture**	**To evaluate my finished product**		

	Explore and evaluate a range of existing products Explore and use mechanisms [for example, levers, sliders, wheels and axles]	Design purposeful, functional 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 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 against design criteria		
Vocab	Sliders, mechanism, adapt, design criteria, design, input, mechanism, model, sliders, template					
Focus	Children experiment with sliders before planning and making three pages of a moving storybook, based on a familiar story. They will draw the page backgrounds, make the moving parts and assemble it.					

Y2						
Spr 1	Structures - Baby Bears Chair Baby Bear's Chair					
Knowledge Organiser	**To explore the concept and features of structures and the stability of different shapes** ***Evaluate*** - Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria ***Technical knowledge*** - Build structures, exploring how they can be made stronger, stiffer and more stable	**To explore strength in different structures** **To understand that the shape of the structure affects its strength** ***Make*** - Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics ***Technical knowledge*** - Build structures, exploring how they can be made stronger, stiffer and more stable	**To make a structure according to design criteria** ***Design*** - Design purposeful, functional, 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 ***Make*** - Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics ***Technical knowledge*** - Build structures, exploring how they can be made stronger, stiffer and more stable	**To produce a finished structure and evaluate its strength, stiffness and stability** ***Make*** - Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics ***Evaluate*** - Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria ***Technical knowledge*** - Build structures, exploring how they can be made stronger, stiffer and more stable		
Vocab	Design criteria, man-made, natural, properties, structure, stable, shape,					
Focus	Using the tale of Goldilocks and The Three Bears as inspiration, children help poor baby bear by making him a brand new chair. When designing the chair, they consider his needs and what he likes and explore ways of building it so that it is strong and stable structure and doesn't break again!					
Y2						
Spr 2	Mechanisms – Making a Moving Monster Making a Moving Monster					

Knowledge Organiser	**To look at objects and understand how they move** **Evaluate** - Explore and evaluate a range of existing products **Technical knowledge** - Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products	**To look at objects and understand how they move** **Evaluate** - Explore and evaluate a range of existing products **Technical knowledge** - Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products	**To explore different design options** **Design** - Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through talking and drawing, templates, mock-ups and, where appropriate, information and communication technology **Evaluate** - Evaluate their ideas and products against design criteria	**To make a moving monster** **Make -** Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics **Technical knowledge-** Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		
Vocab	Axle, design criteria, input, linkage, mechanical, output, pivot, wheel					
Focus	After learning the terms; pivot, lever and linkage, children set to designing a monster that will move using a linkage mechanism. After practising making linkages of different types and varying the materials they use, children can also bring their monsters to life with the gift of movement.					

Y3						
Spr 1	Electrical Systems – Static Electricity Static Electricity					
Knowledge Organiser	**To understand static electricity** Investigate and analyse a range of existing products Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	**To design a game aimed at a target audience** 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To make and test game designs** 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To evaluate my game** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
Vocab	Attract, electricity, electrostatic, repel, innovative, motion, research, stable, template					

Focus	Children are introduces to static electricity and based on scientific understanding of positive and negative charges. They observe the effects of static electricity on objects such as plastic straws, tissue paper and glitter. They will then consider ways of using static electricity as part of a simple game that they will make.					
Y3						
Spr 2	Food – Eating Seasonally Eating Seasonally					
Knowledge Organiser	**To know that climate affects food growth** Cooking and nutrition 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	**To know that importing food impacts the environment and is one of the reasons why we should eat seasonal foods grown in the UK** 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.	**To create a recipe that is healthy and nutritious using seasonal vegetables** 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.	**To safely follow a recipe when cooking** 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		
Vocab	Climate, diet, natural, processed, reared, seasons, sugar, imported,					
Focus	Children discover where and when fruits and vegetables are grown and also learn about seasonality in the UK. They will also learn about the relationship between the colour of fruits and vegetables and their health benefits by making three dishes using seasonal ingredients.					

Y4						
Spr 1	Food – Adapting a Recipe Adapting a Recipe					
Knowledge Organiser	**To follow a baking recipe** **Design -** 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 **Make** - 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	**To make and test a prototype** **Design** - 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 **Make** - 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	**To design a biscuit to a given budget** **Design** - 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 **Make** - 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	**To make a biscuit that meets a given design brief** **Design** - 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 **Make** - 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 **Evaluate** - Investigate and analyse a range of existing products **Cooking and nutrition -** 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	ingredients, according to their functional properties and aesthetic qualities **Evaluate -** 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 **Cooking and nutrition -** 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	ingredients, according to their functional properties and aesthetic qualities **Evaluate** - 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 <u>Cooking and nutrition</u> - 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	ingredients, according to their functional properties and aesthetic qualities **Evaluate -** 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 **Cooking and nutrition -** 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		
Vocab	Design criteria, research, texture, innovate, aesthetic, measure, cross-combination, diet, processed, packaging					
Focus	Children work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit. While making they will also ensure that their creation comes within the given budget of overheads and costs of ingredients.					
Y4						
Spr 2	Digital World: Mindful Moments Timer Mindful Moments Timer					

Knowledge Organiser	**To create a design criteria for an electronic timer based on analysis of existing products** **Design** - 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. **Evaluate** - Investigate and analyse a range of existing products Evaluate their ideas and products against their design criteria and consider the views of others to improve their work	**To apply understanding of computer programming to instruct and control a Micro:bit to function as a timer** **Design -** 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 **Technical knowledge** - To apply their understanding of computing to program, monitor and control their products **Evaluate** - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To design, make and develop a prototype case for my mindful moment timer** **Making** - Select from and use a wider range of tools and equipment Items and objects which are needed to complete a task. to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **Evaluate** - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To design a logo for a mindfulness company using computer-aided design.** **Design** - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Evaluate -** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
Vocab	Research, advantage, disadvantage, criteria, design, ergonomic, timer, program, loop, coding, block, variable, pause, bug, debug, instructions, net, template, develop, join, assemble, test, form, function, prototype, design, process, cheap, user, model, evaluate, logo, clipart, brand identity, branding, design, sketchpad, computer-aided design CAD, 2D, mindfulness					
Focus	Children design, program, prototype and brand a Micro:bit mindful moments timers, to a specified amount of minutes. They carry out research and existing product analysis to determine how programmable product may be used to aid a mindfulness moment					

Y5						
Spr 1	Food – What could be healthier? What could be healthier?					
Knowledge Organiser	To understand where food comes from Cooking and nutrition - 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. Design - Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular	To understand the term healthy Cooking and nutrition - Understand and apply the principles of a healthy and varied diet Design - 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 Evaluate - 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	To adapt a traditional recipe Cooking and nutrition - Understand and apply the principles of a healthy and varied diet Design - 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	**To complete a food product** Cooking and nutrition - Understand and apply the principles of a healthy and varied diet Design - 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 Evaluate - 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		

	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. Evaluate - 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.	design and technology have helped shape the world Computing - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	computer-aided design Make - Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Evaluate - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Technical knowledge - Apply their understanding of computing to program, monitor and control their products.	Understand how key events and individuals in design and technology have helped shape the world Computing - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content		
Vocab	Beef, reared, processed, ethical, diet, ingredients, supermarket, farm, balanced,					
Focus	Focusing on nutrition, children research and modify a traditional Bolognese sauce recipe to make it healthier. They will cook their new and improved versions, making appropriate packaging and also learn about the ethical considerations of farming cattle.					
Y5						
Spr 2	Electrical Systems – Electronic Greeting Card					

	Electronic Greeting Card					
Knowledge Organiser	**To explore, analyse and evaluate greeting cards** **Evaluate** - Understand how key events and individuals in design and technology have helped shape the world 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	**To experiment and construct a functional series circuit** Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	**To create a moodboard to help inspire and generate a range of design ideas** 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	**To create my final electronic greeting card, compete with a functional series circuit.** Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
Vocab	Greeting card, purpose, seasonal, commemorative, sentimental, personalised, developmental, commercial, Sir Rowland Hill, invention, Penny Black Stamp, bespoke, mass production, design brief, design criteria, circuit, components, series circuits, LED (light emitting diode), battery, crocodile clip/wire, switch, coin cell, positive, negative, current, flow, purpose, design idea, inspiration, annotation, greeting card, mass production, one-off production, adorn, series circuit, final design, evaluation, circuit diagram, circuit symbols, current, texture, decorative, functional, form					
Focus	This unit builds on pupils' knowledge of how to incorporate electrical circuits into products from Y4. Children explore how circuits can be adapted to suit different purposes, explore series circuits and recreate one using conductive adhesive tape. They then apply this knowledge to design and create an electronic greeting card.					

Y6						
Spr 1	Structure – Playgrounds Playgrounds					
Knowledge Organiser	**To design a playground with a variety of structures** Use research to develop and inform the design of innovative, functional and appealing products that are fit for purpose and aimed at particular groups Generate, develop, model and communicate ideas through discussion and annotated sketches 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	**To build a range of structures** Generate, develop, model and communicate ideas through discussion and annotated sketches Investigate and analyse a range of existing products Select from and use a wide range of tools and equipment to perform practical tasks Select from and use a wider range of materials and components including construction materials, according to their functional properties and aesthetic qualities Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Apply understanding of how to strengthen, stiffen and reinforce complex structures	**To improve and add detail to structures** Generate, develop, model and communicate ideas through discussion and annotated sketches Select from and use a wide range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components, including construction materials, according to their functional properties and aesthetic qualities Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Apply understanding of how to strengthen, stiffen	**To create surrounding landscape** Inform the design of innovative, functional and appealing products, aimed at particular individuals or groups Generate, develop, model and communicate ideas through discussion and annotated sketches Select from and use a wide range of tools and equipment to perform practical tasks Select from and use a wider range of materials and components including construction materials, according to their functional properties and aesthetic qualities		

			and reinforce complex structures			
Vocab	Apparatus, design criteria, equipment, playground, landscape features,					
Focus	This topic draws upon pupils' skills and knowledge of structures, challenging them to design and create a model of a new playground featuring five apparatus, made from three different structures. Creating a footprint as the base, pupils can practise visualising objects in plan view and also get creative with their use of natural features and cladding for their structures.					
Year 6						
Spr 2	Textiles – Waistcoats Waistcoats					
Knowledge Organiser	**To design a waistcoat** Generate, develop, model and communicate their ideas through discussion, annotates sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer aided design	**To mark and cut fabric according to a design** Select from and use a wider range of tools and equipment to perform practical tasks	**To assemble a waistcoat** Understand how key events and individuals in design and technology have helped shape the world	**To decorate your waistcoat** Evaluate their ideas and products against their own design criteria and consider the views of others.		
Vocab	Annotate, decorate, design criteria, fabric, target customer, waistcoat, waterproof,					
Focus	Using the skills they've developed over the past few years, children select fabrics, use templates, pin, decorate and stitch to create a waistcoat for a person or purpose of their choosing.					

SUMMER 1						
EYFS	• Use a range of small tools, including scissors, paintbrushes and cutlery. • Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function ELG					
	WEEK 1	WEEK 2	WEEEK 3	WEEK 4	WEEK 5	WEEEK 6
	Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Marble paint globes 	Use a range of small tools, including scissors, paintbrushes and cutlery. Cutting out characters for stick puppets. Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Textured under the sea art work- combing paint, paper and pen 	Use a range of small tools, including scissors, paintbrushes and cutlery. Making temples Painting pictures from the book 'Around the World' Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Linking to spatial reasoning in Maths, look at Cubism. Chn to create their own Giraffe in the style of cubism. https://thecraftyclassroom.com/2020/07/23/cubism-art-project-for-kids/ 	Use a range of small tools, including scissors, paintbrushes and cutlery. Making boats with different tools and materials. Link to DT and Literacy Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Making boats with different tools and materials. Link to Physical and Literacy 	Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Drawing with care and detail. Link to physical 	Use a range of small tools, including scissors, paintbrushes and cutlery. Using cutlery to cut fruit. Making a fruit salad with a range of fruits. Make use of props and materials when role playing characters in narratives and stories. Use story sacks and small world resources to act out narratives and stories. Can the children use the language from our 'Handa's Surprise' story in their play? 

	SUMMER 2					
EYFS	• Use a range of small tools, including scissors, paintbrushes and cutlery. • Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function ELG • Share their creations, explaining the process they have used					
	Use a range of small tools, including scissors, paintbrushes and cutlery. Using a hammer to make a bridge Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Making bridges in different ways. Hammering 3 pieces of wood Lego Loose parts Share their creations, explaining the process	Use a range of small tools, including scissors, paintbrushes and cutlery. Using scissors to create stick puppets Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Making Father's Day cards	Use a range of small tools, including scissors, paintbrushes and cutlery. Making Beanstalks Link to DT Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Share their creations, explaining the process they have used. Chn to share their beanstalks, talking about how they made it	Use a range of small tools, including scissors, paintbrushes and cutlery. Using different paintbrushes to paint a picture of the sky. Link to art	Use a range of small tools, including scissors, paintbrushes and cutlery. Using scissors to create puppets Use a range of small tools, including scissors, paintbrushes and cutlery. Spreading butter onto bread Cutting the bread	Use a range of small tools, including scissors, paintbrushes and cutlery. Preparing a snack for end of term treat Safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. Composing shape to make a lion's mane link to maths 

	they have used. Chn to share their bridges talking about how they made the bridge.  					

Y1						
Sum 1	No DT taught this half term					
Vocab						
Focus						
Y1						
Sum 2	Mechanisms – Wheels and Axles Wheels and Axles					
Knowledge Organiser	**To understand how wheels move** Explore and evaluate a range of existing products Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	**To identify what stops wheels from turning** Explore and use mechanisms in their product Explore and evaluate a range of existing products	**Design a moving vehicle** Design purposeful, functional, 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 technology	**To build a moving vehicle** Select from and use a range of tools and equipment to perform practical tasks Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Evaluate their ideas and products against design criteria		
Vocab	Axle, axle holder, diagram , mechanism, wheel.					

Focus	Children learn about the main components of a wheeled vehicle; experiments with mechanisms to help them develop their understanding of how wheels, axels and axel holders work; assume the role of a mechanic to problem-solve why wheels won't rotate; demonstrating learning by designing and building their own moving vehicles.

Y2				
Sum 1	Textiles – Pouches Pouches			
Knowledge Organiser	**To sew a running stitch** I can thread a needle I can sew a running stitch I can use neat and evenly spaced stitches to join fabric	**To sew a running stitch** I can remember how to use a template I can cut fabric neatly I can pin fabric accurately I can design a pouch	**To join fabrics using a running stitch** I can sew neat, even stitches I tie a knot at either end of the thread I can design decorations for my product	**To decorate a pouch using fabric glue or stitching** I can join items using fabric glue or stitching I can decorate fabric using different items I can evaluate my own designs
Focus	Having looked at ways to join fabric in Year 1, children are given their first opportunity to sew in this topic. By making their own template, children can ensure that their pieces of fabric will be exactly the right size. With their fabric cut out, pupils use a simple running stitch to join two pieces together before decorating the front of it, according to their designs.			
Y2				
Sum 2	Mechanisms – Fairground Wheel Ferris Wheel			
Knowledge Organiser	**To explore wheel mechanisms and design a wheel** I know how axles help wheels to move I can evaluate different designs I can design and label a working wheel	**To select appropriate materials** I understand the properties of different materials I can communicate my ideas to someone else I	**To build and test a moving wheel** I can build a stable structure I can test elements of my design I can adapt my design as necessary I know how to make the wheel rotate	**To make and evaluate a structure with a rotating wheel** I can evaluate a wheel mechanism and adapt as necessary

		can select appropriate materials for my wheel		I know how to ensure that my pod stays upright whilst being rotated around a fixed point
Focus	This unit brings together the children's knowledge of mechanisms and structures. They design and create their own Ferris wheels, considering how the different components fit together so that their wheels rotate and their structures stand freely. Pupils select appropriate materials and develop their cutting and joining skills to create a final product.			

Y3						
Sum 1	Structures – Constructing a Castle Constructing-a-castle					
Knowledge Organiser		**To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure** 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	**To design a castle** **Design** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To construct 3D nets** **Design** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design *(Extension activity)* **Make** 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	**To construct and evaluate my final produce** **Make** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**Assessment** **Knowledge Catcher** **Pupil answer sheet** **Slides**

				Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures		
Focus	Learning about the features of a castle, children design and make their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets and constructing a base to secure them.					
Y3						
Sum 2	Mechanical Systems – Pneumatic Toys Pneumatic Toys					
Knowledge Organiser		**Understanding how pneumatic systems work** 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 Understand and use mechanical systems in	**To design a toy which uses a pneumatic system** 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	**To create a pneumatic system** 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	**To test and finalise ideas against design criteria** 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	**Assessment** **Knowledge catcher** **Pupil answer sheet** **Slides**

		their products, for example, gears, pulleys, cams, levers and linkages	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	equipment to perform practical tasks 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 Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages)	and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	
Focus	Pupils design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts while also building on their design knowledge. They will then be introduced to thumbnail sketches and exploded diagrams.					

Y4						
Sum 1	Textiles – Fastenings Fastenings					
Knowledge Organiser	**To identify and evaluate different types of fastenings • To explain the advantages and disadvantages of each fastening type** Investigate and analyse a range of existing products	**To design a product to a given criteria** 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 Evaluate their ideas and products against a design criteria	**To make and test a paper template** Build structures, exploring how they can be made stronger, stiffer or more stable 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	**To assemble the product following the deign specification.** 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To evaluate their own product.** **Knowledge catcher** **Slides** **Pupil answer sheet**	

Focus	Building upon their sewing skills from previous years, this topic sees the children designing and creating a purse; exploring a variety of fastenings and selecting the most appropriate one for their design. Pupils have greater creative freedom at every stage of the project.					
Y4						
Sum 2	Electrical Systems – Torches Torches					
Knowledge Organiser			**To learn about electrical items and how they work** Investigate and analyse a range of existing products Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	**To analyse and evaluate electrical products** Investigate and analyse a range of existing products Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Understand how key events and individuals in design and technology have helped the world	**To design a torch** 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 Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	**To make and evaluate a torch with a working electrical circuit** Understand and use electrical systems in their products Select from and use a wider range of tools and equipment to perform practical tasks 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Focus	In this topic, children apply their scientific understanding of electrical circuits to create a torch made from easily available materials and objects. They will also design and evaluate their product against set design criteria.					
Y5						
Sum 1	Structure – Bridges Bridges					
Knowledge Organiser	**To explore how to reinforce a beam (structure) to improve its strength** Generate, develop, model and communicate their ideas through discussion and prototypes Select from and use a wider range of materials, components and construction materials according to their functional properties and aesthetics Investigate and analyse a range of existing products Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	**To build a spaghetti truss bridge** 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 and prototypes Select from and use a wider range of tools and equipment to perform practical tasks Select from and use a wider range of	**To build a wooden truss bridge** Select from and use a wider range of tools and equipment to perform practical tasks Select from and use a wider range of materials, components and construction materials according to their functional properties an d aesthetics	**To complete, reinforce and evaluate my truss bridge.** Select from and use a wider range of tools and equipment Select from and use a wider range of materials, components and construction materials according to their functional properties an d aesthetics Evaluate their ideas and products against design criteria and consider the views of others to improve their work	**Assessment** **Slides** **Knowledge catcher** **Pupil answer sheet**	

		materials, components and construction materials according to their functional properties and aesthetics Apply their understanding of how to strengthen, stiffen and reinforce more complex structures		Apply their understanding of how to strengthen, stiffen and reinforce more complex structures		
Focus	This topic develops children's understanding of secure structures and introduces them to measuring, sawing and joining wood accurately. After learning about different types of bridges and also exploring how the strength of structures can be affected by the shape used. Children create their own wooden bridge and test its durability.					
Y5						
Sum 2	Textiles – Stuffed Toys Stuffed Toys					
Knowledge Organiser		**To design a stuffed toy** Generate, develop, model and communicate their ideas through discussions, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design	**To sew blanket stitch** Select from and use a wider range of tools and equipment to perform practical tasks	**To create and add decorations to fabric** Apply their understanding of how to strengthen, stiffen, and reinforce more complex structures	**To use a blanket stitch to assemble the components of a stuffed toy** Apply their understanding of how to strengthen, stuff and reinforce more complex structures Evaluate their ideas and products against their own design	Assessment Slides Knowledge catcher Pupil answer sheet

					criteria and consider the views of others to improve their work	
Focus	Creating their own stuffed toy is a really fun project as children can bring their drawings to life and can make them as challenging or as simple as they choose. Not only does this topic give them the chance to apply skills they have learned in previous topics, it also introduces them to a new stitch – blanket stitch.					

Y6						
Sum 1	**Electrical Systems – Steady Hand Game** **Steady Hand Game**					
Knowledge Organiser	**To research and analyse a range of children's toys** Understand how key events and individuals in design and technology have helped shape the world Investigate and analyse a range of existing products	**To design a steady hand game** 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 and communicate their ideas through discussion and annotated sketches Evaluate their ideas and products against design criteria and consider the views of others to improve their work Understand and use electrical systems in their products	**To construct a stable base** Model ideas through prototypes Select from and use a wide range of tools and equipment to perform practical tasks Evaluate their ideas and products against design criteria and consider the views of others to improve their work	**To assemble electronics and complete their electronic game** Model ideas through prototypes Select from and use a wide range of tools and equipment to perform practical tasks Understand and use electronics in their products Evaluate their ideas and products against design criteria and consider the views of others to improve their work	**Assessment** **Slides** **Knowledge catcher** **Pupil answer sheet**	
Focus	Using their understanding of electrical systems and design, children are challenged with designing and creating a steady hand game. Pupils will use nets to create their bases and their knowledge of electrical circuits to build a circuit with a buzzer which closes when the handle makes contact with the wire frame.					

Y6						
Sum 2	Mechanical systems – Automata Toys Automata Toys					
Knowledge Organiser	**To prepare wood for assembly by measuring, marking and cutting each piece** **Design** 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 **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **Technical knowledge** Understand how key events and individuals in design and technology	**To assemble the automata frame components and supports with the help of an exploded-diagram** 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 **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting,	**To explore the relationship between cam profiles and follower movement, to inform a design decision** 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 **Technical knowledge** Understand and use mechanical systems in their products [for example, gears, pulleys,	**To apply the housing and finishing touches to the automata frame** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**To apply the housing and finishing touches to the automata frame** 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 **Evaluate** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**Assessment** **Slides** **Knowledge catcher** **Pupil answer sheet**

	have helped shape the world	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	cams, levers and linkages]			
Focus	Using woodworking materials and skills, pupils construct a window display using an automata mechanism; measuring and cutting their materials, assembling the frame, choosing cams, designing the characters that sit on the followers and also finishing with a foreground and a background					