

EYFS							
Topic	Workshop: junk modelling Exploring materials through junk modelling, children develop their scissor skills and awareness of different materials and joining techniques. Children begin to make verbal plans and material choices before starting and problem solve while making their model.	Cooking and nutrition: soup Learning about vegetables and where they come from while preparing to make a soup. Children describe the taste of a range of vegetables and design a soup recipe as a class. They practise cutting skills and prepare the vegetables for their class soup before testing the final product.	Textiles: bookmarks Developing fine motor skills through a range of threading activities before moving on to use binka and a needle. Children design a bookmark, considering what to include and why and then follow their designs to complete their bookmarks	Structures: boats Considering the properties of materials through water play, children discover which materials are waterproof and whether they float or sink. Children evaluate a variety of boats and use their new- found knowledge to design and make a boat that is waterproof and floats.	 Other links within the EYFS curriculum: Designing and making a scarecrow Dragon junk modelling Creating masks Making cards Design a make a home for a hedgehog Designing and making a bird box Creating bird feed 		
Development matters links	Understanding the world: Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Explore how things work. Begin to understand the need to respect and care for the natural environment and all living things. Talk about the differences between materials and changes they notice. Describe what they see, hear and feel whilst outside. Expressive arts and design: Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. Use their imagination as they consider what they can do with different materials. Make simple models which express their ideas.						
ELG links	 The Natural World: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. Share their creations, explaining the process they have used. Make use of props and materials when role playing characters in narratives and stories 						
Oracy opportunities	-	-	egin to explain how they ha I. Use time conjunctions to s				



YEAR 1 and 2 CYCLE A								
Торіс		Mechanisms: making	Structures:	Mechanisms: wheels	Cooking and	Textiles: puppets		
		a moving story book	constructing a	and axles	nutrition: smoothies	Explore different		
		Experiment with	windmill	Learn about the	Handle and explore	ways of joining		
		sliders before	Design, decorate	main components	fruits and	fabrics before		
		planning and	and build a windmill	of a wheeled	vegetables and	creating hand		
		making three pages	for a mouse (client)	vehicle. Develop	learn how to	puppets based upon		
		of a moving story	to live in, develop	understanding of	identify fruit, before	characters from a		
		book, based on a	an understanding of	how wheels, axles	undertaking taste	well-known fairy		
		familiar story,	different types of	and axle holders	testing to establish	tale. Develop		
		drawing the page	windmill, how they	work; problem-	chosen ingredients	technical skills of		
		backgrounds,	work and their key	solve why wheels	for a smoothie they	cutting, glueing,		
		creating the moving	features. Look at	won't rotate; to	will make, with	stapling and		
		parts and	real existing	design and build	accompanying	pinning.		
		assembling it.	examples and the	their own vehicle	packaging.			
			functions that they	designs.				
			carry out.					
Oracy opportunities		Continue	Summary bullseye	Concept cartoon:	Consensus circle:	Utilise fed-in facts		
		embedding talk	to consolidate	which of the	how can we make a	to develop		
		tactics and using	vocabulary and	statements about	healthy smoothie?	children's'		
		subject-specific	recount.	wheels and axles do		vocabulary and		
		vocabulary.		you agree with?		understanding of		
						puppet making.		
		VE	AR 1 and 2 CYCLE B					
Торіс	Structures: Baby	T E/	Mechanisms: making	Cooking and	Mechanisms:	Textiles: pouches,		
	bear's chair		a moving monster	nutrition: balanced	fairground wheel	linking to monarchs		
	Using the tale of		After learning the	diet	Design and create a	Introduction to		
	Goldilocks and the		terms: pivot, lever	Explore and learn	functional Ferris	sewing. Pupils make		
	Three Bears as		and linkage, pupils	what forms a	wheels, consider	their own template,		
	inspiration, pupils		design a monster	balanced diet,	how the different	accurately cut their		
	help Baby Bear by		that will move using	pupils will taste test	components fit	, fabric and sew a		
	making him a new		a linkage	ingredient	together so that the	basic running stitch.		



	chair, exploring different shapes and materials. When designing the chair, they consider his needs and what he likes.		mechanism. Pupils practise making linkages and experiment with various materials to bring their monsters to life.	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.	wheels rotate and the structure stands freely. Select appropriate materials and develop their cutting and joining skills.	
Oracy opportunities	Continue embedding talk tactics and using subject-specific vocabulary.		Always, sometimes and never to develop reasoning and understanding on new vocabulary.	Consensus circle: what makes a balanced diet?	Adapt 'If I ruled the world' to If I were to design a fairground, I would. Develops reasoning and explanations.	Continue embedding talk tactics and using subject-specific vocabulary.
	I	YI	EAR 3 & 4 CYCLE A	I	l	
Торіс	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.	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.	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 about The Romans.	Textiles: fastenings Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate- use.	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.	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



Oracy opportunities	Always, sometimes, never based on pneumatic systems.	Continue embedding talk tactics and using subject-specific vocabulary.	Concept cartoon: which of the statements about working circuits do you agree with and why?	Summary bullseye to consolidate vocabulary and recount.	Balloon debate: choose from a range of wearable technologies , arguing the one the world would miss the most.	harvested in the UK in May and June. Consensus circle: how can we eat and be aware of conservation?
		Y	EAR 3 & 4 CYCLE B			
Торіс	Structures: pavilions, linking to the Victorian era Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.	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.	Textiles: cross stitch and applique 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 Egyptian collars.	Mechanical systems: making a slingshot Viking longboat Transform lollipop sticks, wheels, dowel and straws into a moving Viking longboat. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.	Cooking and nutrition: adapting a recipe Work in groups to adapt a simple biscuit recipe, to create a biscuit suited to a chosen target audience. They ensure that their creation comes within a given budget of overheads and ingredients.	Digital world: mindful moments timer Design, program, prototype and brand a Micro:bit timer to a specified number of minutes. Pupils carry out research and existing product analysis to determine how a programmable product could be personalised to their needs.
Oracy opportunities	Continue embedding talk tactics and using subject-specific vocabulary.	Sometimes, always and never based on electrical circuits: promotes reasoning and collaborative talk.	Concept cartoons to promote students to approach misconceptions about cross stitch and applique.	Summary bullseye to consolidate vocabulary and recount.	Fed-in facts used to develop children's vocabulary and understanding of recipes.	Continue embedding talk tactics and using subject-specific vocabulary.



			YEAR 5			
Topic	Textiles: stuffed toys Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch.	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.	Cooking and nutrition: developing a recipe (adapt to link to Greece) 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.	Mechanical systems: pop-up book, linked to oceans Create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.	Structures: bridges, linked to The Mayans 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.	Electrical systems: doodlers Explore series circuits further and introduce motors. Explore how the design cycle can be approached at a different starting point, by investigating an existing product, which uses a motor, to encourage pupils to problem-solve and work out how the product has been constructed, ready to develop their own.
Oracy opportunities	Continue embedding talk tactics and using subject-specific vocabulary.	Balloon debate: which monitoring devices would the world miss the most and why?	Summary bullseye to consolidate vocabulary and recount.	Continue embedding talk tactics and using subject-specific vocabulary.	Talking points: the lighter the bridge, the more robust it will be.	Fed-in facts to develop new vocabulalry and begin to understand processes involved in making pop-up doodlers.
			YEAR 6			
Торіс	Textiles: waistcoats Select fabrics, use templates, pin, decorate and stitch	Mechanical systems: automata toys Use woodworking skills, pupils	Structures: playground Design and create a model for a new	Electrical systems: steady hand game Design and create a steady hand game,	Cooking and nutrition: come dine with me	Digital world: navigating the world Program a navigation tool to



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	materials together	construct an	playground	use nets to create	Research and	produce a
	to create a	automata;	featuring five	the bases and apply	prepare a three-	multifunctional
	waistcoat for a	measuring and	apparatus, made	knowledge of	course meal and	device for trekkers.
	person or purpose	cutting their	from three different	electrical circuits to	taste-test and score	Combine 3D virtual
	of their choosing.	materials,	structures. Using a	build an operational	their food. Research	objects to form a
	Create or use a	assembling the	footprint as the	circuit with a buzzer	the journey of their	complete product
	pattern template to	frame, choosing	base, practise	that completes the	main ingredient	concept in 3D
	fit a desired person	cams and designing	visualising objects in	circuit when the	from 'farm to fork'	computer-aided
	or item (e.g. Mister	the characters that	plan view and get	handle contacts the	and write a	design modelling
	Tom)	sit on the followers	creative including	wire.	favourite recipe.	software.
		to form an	natural features.			
		interactive shop				
		display.				
Oracy opportunities	Summary bullseye	Fed-in facts to	Continue	Sometimes, always	Adaptation of 'If I	Continue
	to consolidate	develop new	embedding talk	and never based on	ruled the world' to	embedding talk
	vocabulary and	vocabulalry and	tactics and using	circuits:	'If I were to create a	tactics and using
	recount.	begin to understand	subject-specific	collaborative talk	3-course menu'	subject-specific
		processes involved	vocabulary.	and reasoning	Providing	vocabulary.
		in making automata			explanations and	
		toys.			propose new ideas.	

