National Curriculum	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
and EYFS	Physical Development Exploring media and <u>materials</u>	Key S	Stage 1	Lower Key Stage 2 Upper Key Stage 2					
	• How to use one handed tools and equipment with control to achieve their intended purpose.	KS1 Pupils should be taught a When designing and making, be taught to:		KS2 Pupils should be taught a When designing and making, Design	pupils should be taught to:				
	 How to thread a needle and sew a simple running stitch. How to cut using scissors 	 Design design purposeful, function themselves and other users b generate, develop, model a 	based on design criteria	for purpose, aimed at particul • generate, develop, model ar	esign criteria to inform the desi lar individuals or groups nd communicate their ideas thr es, pattern pieces and compute	ough discussion, annotated ske			
	 To learn to handle and use equipment and tools effectively, e.g. hammers, clay tools, scissors etc. 		nplates, mock-ups and, where	Make	range of tools and equipment t	-	xample, cutting, shaping,		
	 To use scissors to cut out regular shapes. To learn how to use the 	 select from and use a range perform practical tasks [for ex joining and finishing] 			range of materials and compor r functional properties and aest	-	aterials, textiles and		
	 appropriate amount of glue and tape in joining materials together. Learn to use cutlery effectively to 	ingredients, according to thei	ruction materials, textiles and	 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 					
	 cut food, including challenging food that needs more stabilising whilst being cut Learn to prepare a healthy snack and explain choices. 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, slider 				 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 understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products 				
Design	 Design purposeful, functional, appeadesign criteria Generate, develop, model and commock-ups and, where appropriate, i 	nunicate their ideas through ta	nd other users based on Iking, drawing, templates,	 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 discussions, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 					
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
	Key Objectives Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design * Use contexts set by the teacher and myself *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	Key Objectives * have own ideas * explain what I want to do *explain what my product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for myself following design criteria *research similar Existing products	Key Objectives * have own ideas and plan what to do next * explain what I want to do and describe how I may do it * explain purpose of product, how it will work and how it will be suitable for the user * describe design using pictures, words, models, diagrams, begin to use ICT * design products for myself and others following design criteria * choose best tools And materials, and explain choices	Key Objectives *begin to research others' needs * show design meets a range of requirements * describe purpose of product * follow a given design criteria * have at least one idea about how to create product * create a plan which shows order, equipment and tools * describe design using an accurately labelled sketch and words	Key Objectives * use research for design ideas * show design meets a range of requirements and is fit for purpose * begin to create own design criteria * have at least one idea about how to create product and suggest improvements for design. * produce a plan and explain it to others * say how realistic plan is. * include an annotated sketch * make and explain design	Key Objectives * use internet and questionnaires for research and design ideas * take a user's view into account when designing * begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose * create own design criteria * have a range of ideas * produce a logical, realistic plan and explain it to others. * use cross-sectional planning and annotated sketches	Key Objectives * draw on market research to inform design * use research of user's individual needs, wants, requirements for design * identify features of design that will appeal to the intended user * create own design criteria and specification * come up with innovative design ideas *follow and refine a logical plan. * use annotated sketches, cross-sectional planning and exploded diagrams		

Year 5

		Design and reenholog	y riogression of okins				
		* use knowledge of existing	* make design decisions	decisions considering	* make design decisions	* make design decisions,	
		products to produce	*explain how product will	availability of resources	considering time and	considering, resources and	
		ideas	work	*explain how product will	resources.	cost	
			* make a prototype	work	*clearly explain how parts of	* clearly explain how parts	
			* begin to use computers to	* make a prototype	product will work.	of design will work, and how	
			show design	*begin to use computers to	*model and refine design	they are fit for purpose	
				show design	ideas by making prototypes	* independently model and	
					and using	refine design ideas by	
					pattern pieces.	making prototypes and	
					*use computer-aided	using pattern pieces	
					designs	* use computer-aided	
						designs	
Outcomes	Outcomes		Outcomes				
	To design purposeful,	functional, appealing	• To use research and develop design criteria to inform the design of innovative, functional, appealing products that				
 Begin to use the language of 	products based on de	sign criteria.	are fit for purpose, aimed at particular individuals or groups				
designing and making, e.g. join,	• To generate, develop, model and communicate		• To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional				
build and shape.	their ideas through talking, drawing, templates,		and exploded diagrams, prototypes, pattern pieces and computer aided design				
Learning about planning and	mock-ups and, where	appropriate, ICT.					
adapting initial ideas to make							
them better.							

Make	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
		Kay Stage 1		Kay Stage 2				
	 select from and use a range of tools and equipment to perform practical tas cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including contextiles and ingredients, according to their characteristics. 			joining and finishing], • select from and use a	 select from and use a wider range of tools and equipment to perform practical tasks [for example joining and finishing], accurately select from and use a wider range of materials and components, including construction material ingredients, according to their functional properties and aesthetic qualities. 			
	Key Objectives	Key Objectives	Key Objectives	Key Objectives	Key Objectives	Key Objectives	Key Objectives	
	 Construct with a purpose, using a variety of Resources Use simple tools and techniques Build / construct with a wide range of objects Select tools & techniques to shape, assemble and join Replicate structures with materials /components Discuss how to make an activity safe and hygienic Record experiences by drawing, writing, voice recording Understand different media can be combined for a purpose 	<pre>*explain what I'm making and why *consider what I need to do next *select tools/equipment to cut, shape, join, finish and explain choices *measure, mark out, cut and shape, with support *choose suitable materials and explain choices *try to use finishing techniques to make product look good *work in a safe and hygienic manner</pre>	<pre>key Objectives explain what I am making and why it fits the purpose *make suggestions as to what I need to do next. *join materials/components together in different ways *measure, mark out, cut and shape materials and components, with support. *describe which tools I'm using and why *choose suitable materials and explain choices depending on characteristics. *use finishing techniques to make product look good *work safely and hygienically</pre>	<pre>*select suitable tools/equipment, explain choices; begin to use them accurately * select appropriate materials, fit for purpose. * work through plan in order *consider how good product will be * begin to measure, mark out, cut and shape materials/components with some accuracy * begin to assemble, join and combine materials and components with some accuracy * begin to apply a range of finishing techniques with some accuracy</pre>	<pre>* select suitable tools and equipment, explain choices in relation to required techniques and use accurately *select appropriate materials, fit for purpose; explain choices * work through plan in order. * realise if product is going to be good quality * measure, mark out, cut and shape materials/components with some accuracy *assemble, join and combine materials and components with some accuracy *apply a range of finishing techniques with some accuracy</pre>	key objectives use selected tools/equipment with good level of precision * produce suitable lists of tools, equipment/materials needed *select appropriate materials, fit for purpose; explain choices, considering functionality * create and follow detailed stepby-step plan * explain how product will appeal to an audience * mainly accurately measure, mark out, cut and shape materials/components * mainly accurately assemble, join and combine materials/components * mainly accurately apply a range of finishing techniques * use techniques that involve a small number of steps * begin to be resourceful	* use selected tools and equipment precisely *produce suitable lists of tools, equipment, materials needed, considering constraints * select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics * create, follow, and adapt detailed step-by-step plans *explain how product will appeal to audience; make changes to improve quality * accurately measure, mark out, cut and shape materials/components * accurately assemble, join and combine materials/components * accurately apply a range of finishing techniques * use techniques that involve a number of steps * be resourceful with	
	Outcomes	Outcomes		Outcomes			Practical problems	
	 To learn to construct with a purpose in mind. 	cutting, shaping, joiniTo select from and us	n practical tasks [for example,	shaping, joining and f To select from and us 	e a wider range of tools and eq inishing], accurately. e a wider range of materials an g to their functional properties	d components, including cons		

Year 5	
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			Design and reennerey	,
	Selects tools and	techniques	textiles and ingredients, according to their	
	needed to shape,	assemble and join	characteristics	
	materials			

Evaluate	EYFS	Year 1	Year 2	Year 3	Year 4			
		Ка	y Stage 1		Kay Stage			
	explore and evaluate a range of e evaluate their ideas and products			 evaluate their ide work 	 investigate and analyse a range of existing products evaluate their ideas and products against their own design crit work understand how key events and individuals in design and technological structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure is a structure in the structure in the structure in the structure is a structure in the structure in the structure in the structure is a structure in the structure in the structure in the structure is a structure in the stru			
talk abor existing objects/ *Conside some risks *Practise approprisafety m indepen *Talk ab work *Look at and difference existing objects / tools *Show a technolog	work if ry htle, examine, ut 'structures er and manage e some iate heasures dently bout how things t similarities ces between	Key Objectives *talk about my work, linking it to what I was asked to do * talk about existing products considering: use, materials, how they work, audience, where they might be used *talk about existing products, and say what is and isn't good * talk about things that other people have made *begin to talk about what could make product better	Key Objectives * describe what went well, thinking about design criteria * talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion *evaluate how good existing products are *talk about what I would do differently if I were to do it again and why	Key Objectives* look at design criteria while designing and making* use design criteria to evaluate finished product* say what I would change to make design better* begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose * begin to understand by whom, when and where products were designed * learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products	Key Objectives *refer to design criteria while designing and making *use criteria to evaluate product * begin to explain how I could improve original design *evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose * discuss by whom, when and where products were designed * research whether products can be recycled or reused * know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products	Key O *evalue design makin *evalue finishe produe specific conside and appea *test final p * evalue discues produe conside well they've mater wheth how t been purpo * begin how r make innove *test final p * evalue discues produe conside well they've mater wheth how t been purpo * begin how r make innove * test final p * evalue conside well they've mater * begin how r make innove * test final p * evalue conside well they've mater * begin how r make innove * test final p * out they've mater * begin how r make innove * test final p * out they've mater * begin how r * resea sustai mater * talk a inventi engine chefs/ of group		

Year	5
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eria and consider the views of others to improve their

nology have helped shape the world.

Objectives	Key Objectives
aluate quality of	*evaluate quality of
gn while	design while
gning and	designing and
king	making; is it fit for
aluate ideas and	purpose?
shed	* keep checking
duct against	design is best it can
cification,	be.
sidering purpose	*evaluate ideas and
	finished product
earance.	against specification,
st and evaluate	stating if it's fit
l product	for purpose
valuate and	*test and evaluate
uss existing	final product;
ducts,	explain what would
sidering: how	improve it and the
	effect different
/'ve been made,	resources may have
erials,	had
ether they work,	*do thorough
/ they have	evaluations of
n made, fit for	existing
pose	products considering:
egin to evaluate	how well they've been
much products cost to	made,
ke and how	materials,
ovative they are	whether they work,
search how	how they've been
ainable	made, fit for purpose
erials are	*evaluate how much
k about some key	products cost to
entors/designers/	make and how
ineers/	innovative they are
fs/manufacturers	*research and
round-breaking	discuss how
ducts	sustainable
	materials are
	*consider the impact
	of products
	beyond their

						intended purpose *discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products
 Begin to talk about changes made during the making process, e.g. making a decision to use a different joining method. 	products.	evaluate a range of existing ir ideas and products against	To evaluate their their work.	nd analyse a range of existing pro- r ideas and products against their ow key events and individuals in a	own design criteria and consider	
Кеу	Кеу	Кеу	Кеу	Кеу	Кеу	Кеу
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary
Planning	Planning	Investigating,	User	Evaluating	Design decisions	Function
Investigating	Investigating	Planning	Purpose	Design brief	Functionality	Innovative
Design	Design	Design	Design	Design criteria	Authentic	Design
Evaluate	Evaluate	Make	Model	Innovative	User	Specification
Make	Make	Evaluate	Evaluate	Prototype	Purpose	Design brief
	User	User	Prototype	User	Design specification	User
	Purpose	Purpose	Annotated sketch	Purpose	Design brief	Purpose
	Idea	Ideas	Functional	Function	Innovative	Design brief
	Product	Design	Innovative	Prototype	Research	Design
		Criteria	Investigate	Design	Evaluate	Specification
		Product	Label	Criteria	Design criteria	Prototype
		Function	Drawing	Innovative	Annotate	Annotated sketch
			function	Appealing	Evaluate	Purpose
			Planning,	Design brief	Mock-up	User
			Design criteria	Planning	Prototype	Innovation
			Annotated	Annotated sketch		Research
			Sketch	Sensory evaluations		Functional
			Appealing			Mock-up
						Prototype

Mechanisms	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
meenamismis	2110								
	Dhysical Davalanment	National Curriculum		National Curriculum					
	Physical Development Exploring media and	National Curriculum		National Curriculum					
	materials	KS1 Pupils should be taught about	ut:	KS2 Pupils should be taught abo	ut:				
		When designing and making, pu		When designing and making, pu					
	How to use one	be taught to:		Design	P				
	handed tools and	Design			gn criteria to inform the design of	f innovative, functional,			
	equipment with	design purposeful, functional,		appealing products that are fit f	or purpose, aimed at particular in	dividuals or groups			
	control to achieve	appealing products for themselves		• generate, develop, model and	communicate their ideas through	discussion, annotated			
	their intended	and other users based on design		sketches, cross-sectional and ex	ploded diagrams, prototypes, pat	tern pieces and computer aided de	esign.		
	purpose.	criteria		Make					
	Use simple	• generate, develop, model and			nge of tools and equipment to pe	rform practical tasks [for			
	construction	communicate their ideas throug		example, cutting, shaping, joinir					
	materials	talking, drawing, templates, mod			nge of materials and components	-			
		information and communication	1		ts, according to their functional p	roperties and aesthetic			
		technology. Make		qualities Evaluate					
		select from and use a range of		 investigate and analyse a rang 	e of existing products				
		tools and equipment to perform			icts against their own design crite	ria and consider the views of			
		practical tasks [for example,		others to improve their work					
		cutting, shaping, joining and		 understand how key events and individuals in design and technology have helped shape the 					
		finishing]		world Technical knowledge					
		select from and use a wide range		apply their understanding of how to strengthen, stiffen and reinforce more complex structures					
		of materials and components,		 understand and use mechanical systems in their products [for example, gears, pulleys, cams, 					
		including construction materials		levers and linkages]					
		textiles and ingredients, accordin	ng	understand and use electrical systems in their products [for example, series circuits					
		to their characteristics		incorporating switches, bulbs, b					
		Evaluate	f	 apply their understanding of computing to program, monitor and control their products. 					
		 explore and evaluate a range c existing products 							
		evaluate their ideas and products	icts						
		against design criteria Technical							
		knowledge							
		 build structures, exploring how 	v they						
		can be made stronger, stiffer and							
		more stable							
		• explore and use mechanisms [for						
		example, levers, sliders, wheels							
		and axles], in their product							
	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes		
	begin to use levers or	Sliders and Levers	Wheels and Axles	Pneumatics	Levers and Linkages	CAMS	Pulleys or Gears		
	slides	To use own ideas to	Generate initial ideas and	Generate realistic and	Designing	Designing	Designing		
		design something and	simple design criteria	appropriate ideas and their	Generate realistic ideas and	Generate innovative ideas by	Generate innovative ideas by		
	Use simple	describe how their	through talking and using	own design criteria through	their own design criteria	carrying out research using	carrying out research using		
	construction	own idea works	own experiences.	discussion, focusing on the	through discussion, focusing	surveys, interviews,	surveys, interviews,		
	materials e.g duplo	To design a product	Develop and communicate	needs of the user.	on the needs of the user.	questionnaires and web-based	questionnaires and web-based		
	to stack and join	which moves	ideas through drawings and	Use annotated sketches and	Use annotated sketches and	resources.	resources.		
	•	-	mock-ups.		prototypes to develop, model				
		-		and communicate ideas.	and communicate ideas.	-			
	такт	-	Making			C C	0		
		-	• Select from and use a range	Making	Making				
		plan before making	of tools and equipment to			annotated drawings, exploded	annotated drawings, exploded		
	pieces, tell an adult what they are making	 To explain to someone else how they want to make their product and make a simple plan before making 	mock-ups. Making • Select from and use a range	prototypes to develop, model and communicate ideas. Making	prototypes to develop, model and communicate ideas.	 Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, 	 Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, 		

		Design and Tec	hnology – Progression of Skil	ls	
	 To use own ideas to make something To make a product which moves To choose appropriate resources and tools To describe how something works To explain what works well and not so well in the model they have made To generate ideas based on simple design criteria and their own experiences, explaining what they could make. To develop, model and communicate their ideas through drawings and mockups with card and paper. To plan by suggesting what to do next. To select and use tools, explaining their choices, to cut, shape and join paper and card. To use simple finishing techniques suitable for the product they are creating. To explore and use sliders and levers. To understand that different mechanisms produce different types of movement. To know and use technical vocabulary relevant to the project. 	 perform practical tasks such as cutting and joining to allow movement and finishing. Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. Evaluating Explore and evaluate a range of products with wheels and axles. Evaluate their ideas throughout and their products against original criteria. Technical knowledge and understanding Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project. 	 Order the main stages of making. Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. Select from and use finishing techniques suitable for the product they are creating. Evaluating Investigate and analyse books, videos and products with pneumatic mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make. Technical knowledge and understanding Understand and use pneumatic mechanisms. Know and use technical vocabulary relevant to the project. 	 Order the main stages of making. Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. Select from and use finishing techniques suitable for the product they are creating. Evaluating Investigate and analyse books and, where available, other products with lever and linkage mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make. Technical knowledge and understanding Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project. 	drawings a different v Making • Produce tools, equ materials. step plans allocate ta • Select fr of tools ar make prod accurately finished. V constraint and cost. Evaluating • Compart the origin specificati • Test pro intended practical, evaluate t design, ma functional purpose. • Conside to improv • Investiga manufacta engineerin relevant ta Technical understar • Underst systems h and an ou • Underst used to pr types of m change th movemen • Know an vocabular
Final Outcome	Final Outcome	Final Outcome	Final Outcome	Final Outcome	Fi
Outcomes To begin to experiment with leavers and slides in different scenarios	 Outcomes To explore and use mech sliders, wheels and axles 	hanisms [for example, levers, s], in their products.	 Outcomes To understand and use r 	mechanical systems in their produc	cts [for exan

s and drawings from t views.

ce detailed lists of uipment and s. Formulate step-byns and, if appropriate, tasks within a team. from and use a range and equipment to oducts that that are ely assembled and well Work within the nts of time, resources

- are the final product to nal design tion.
- oducts with the
- d user, where safe and , and critically
- the quality of the
- nanufacture,
- ality and fitness for
- er the views of others ve their work.
- gate famous
- cturing and
- ring companies
- to the project.

al knowledge and anding

- stand that mechanical have an input, process utput. stand how cams can be produce different
- movement and
- the direction of
- ent.
- and use technical
- ary relevant to the
- Final Outcome

drawings and drawings from different views.

Making

• Produce detailed lists of tools, equipment and materials. Formulate step-bystep plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.

Evaluating

• Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. Investigate famous manufacturing and engineering companies relevant to the project.

Technical knowledge and understanding

• Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. •Know and use technical vocabulary relevant to the project.

Final Outcome

ample, gears, pulleys, cams, levers and linkages].

		Design and Tec			0.1.10	
 Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet 	 Sliders and Levers class/group storybook poster display greetings card class/group information book storyboard 	 Wheels and Axles push/pull toys e.g. emergency service vehicle carnival float farm vehicle clown's car vehicle for imaginary/story character shopping trolley 	Pneumatics • tipper truck • jack-in-the-box • class display • moving creature • shop window display • moving toy	Levers and Linkages story book poster class display greetings card information book storyboard 	 CAMS a shop display with moving parts e.g. lifting or rotating images of items for sale a vehicle incorporating cam-driven components a toy with oscillating rotating or reciprocating movement 	 Pulleys or Gears fairground ride with gears or pulleys e.g. carousel, Ferris whee controllable toy vehicle with gears or pulleys e.g. dragster, off-road vehicle sports car, lorry window display with moving parts e.g. lifting or turning iten for sale
Key vocabulary	Key vocabulary	Key Vocabulary	Key Vocabulary	Key Vocabulary	Key Vocabulary	Key Vocabulary
Key vocabulary Slot	Key vocabulary Sliders and Levers	Key Vocabulary Wheels and Axles	Key Vocabulary Pneumatics	Key Vocabulary Levers and Linkages	Key Vocabulary <u>CAMS</u>	Pulleys or Gears
				Levers and Linkages		
Slot	Sliders and Levers	Wheels and Axles	Pneumatics	Levers and Linkages Mechanism	Cam	Pulleys or Gears
Slot Card	Slider	Wheels and Axles assembling	Pneumatics Components	Levers and Linkages Mechanism Lever	Cam snail cam	Pulleys or Gears Pulley
Slot Card Masking Tape	Slider Lever	Wheels and Axles assembling joining	Pneumatics Components Fixing	Levers and Linkages Mechanism Lever Linkage	Cam	Pulleys or Gears Pulley drive belt gear
Slot Card Masking Tape Paper fastener	Slider Lever Pivot	Wheels and Axles assembling joining shaping	Pneumatics Components Fixing Attaching	Levers and Linkages Mechanism Lever Linkage Pivot	Cam snail cam	Pulleys or Gears Pulley drive belt gear rotation
Slot Card Masking Tape Paper fastener Join	Sliders and Levers Slider Lever Pivot Slot	Wheels and Axles assembling joining shaping finishing	Pneumatics Components Fixing Attaching Tubing	Levers and Linkages Mechanism Lever Linkage Pivot Slot	Cam Snail cam off-centre cam	Pulleys or Gears Pulley drive belt gear
Slot Card Masking Tape Paper fastener Join Pull	Sliders and Levers Slider Lever Pivot Slot bridge/guide	Wheels and Axles assembling joining shaping finishing fixed	Pneumatics Components Fixing Attaching Tubing Syringe	Levers and Linkages Mechanism Lever Linkage Pivot Slot Bridge	Cam Cam snail cam off-centre cam peg cam pear shaped cam follower	Pulleys or Gears Pulley drive belt gear rotation
Slot Card Masking Tape Paper fastener Join Pull Push	Sliders and Levers Slider Lever Pivot Slot bridge/guide card	Wheels and Axles assembling joining shaping finishing fixed free moving equipment	Pneumatics Components Fixing Attaching Tubing Syringe Plunger	Levers and Linkages Mechanism Lever Linkage Pivot Slot Bridge guide	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle	Pulleys or Gears Pulley drive belt gear rotation spindle
Slot Card Masking Tape Paper fastener Join Pull Push Up	Sliders and Levers Slider Lever Pivot Slot bridge/guide card masking tape	Wheels and Axles assembling joining shaping finishing fixed free moving equipment materials used	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pin	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesystem	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle shaft	Pulleys or Gears Pulley drive belt gear rotation spindle driver
Slot Card Masking Tape Paper fastener Join Pull Push Up Down	Sliders and Levers Slider Lever Pivot Slot bridge/guide card masking tape paper fastener	Wheels and Axles assembling joining shaping finishing fixed free moving equipment materials used design	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastener	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminput	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle	Pulleys or Gears Pulley drive belt gear rotation spindle driver follower ratio
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight	Sliders and Levers Slider Lever Pivot Slot bridge/guide card masking tape paper fastener join	Wheels and Axles assembling joining shaping finishing fixed free moving equipment materials used design make	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movement	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocess	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle shaft	Pulleys or Gears Pulley drive belt gear rotation spindle driver follower ratio transmit
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight Curve	Sliders and Levers Slider Lever Pivot Slot bridge/guide card masking tape paper fastener join pull	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluate	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocess	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutput	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle shaft crank	Pulleys or GearsPulleydrive beltgearrotationspindledriverfollowerratio
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight	Sliders and Levers Slider Lever Pivot Slot bridge/guide card masking tape paper fastener join pull push	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluatepurpose	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocessoutput movement	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutputlinear	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle shaft crank handle housing	Pulleys or Gears Pulley drive belt gear rotation spindle driver follower ratio transmit
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight Curve	Sliders and LeversSliderLeverPivotSlotbridge/guidecardmasking tapepaper fastenerjoinpullpushupdownstraight	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluatepurposeuser	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocessoutput movementcontrol	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutputlinearrotary	CAMSCamsnail camoff-centre campeg campear shaped cam followeraxleshaftcrankhandlehousingframework rotation	Pulleys or GearsPulleydrive beltgearrotationspindledriverfollowerratiotransmitaxle
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight Curve Forwards	Sliders and LeversSliderLeverPivotSlotbridge/guidecardmasking tapepaper fastenerjoinpullpushupdownstraightcurve	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluatepurposeusercriteria	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocessoutput movementcontrolcompression	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutputlinear	CAMS Cam snail cam off-centre cam peg cam pear shaped cam follower axle shaft crank handle housing	Pulleys or GearsPulleydrive beltgearrotationspindledriverfollowerratiotransmitaxlemotorcircuit
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight Curve Forwards Backwards	Sliders and LeversSliderLeverPivotSlotbridge/guidecardmasking tapepaper fastenerjoinpullpushupdownstraightcurveforwards	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluatepurposeusercriteriafunctional	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocessoutput movementcontrolcompressionpressure	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutputlinearrotary	CAMSCamsnail camoff-centre campeg campear shaped cam followeraxleshaftcrankhandlehousingframework rotation	Pulleys or GearsPulleydrive beltgearrotationspindledriverfollowerratiotransmitaxlemotorcircuitswitch
Slot Card Masking Tape Paper fastener Join Pull Push Up Down Straight Curve Forwards Backwards Bricks	Sliders and LeversSliderLeverPivotSlotbridge/guidecardmasking tapepaper fastenerjoinpullpushupdownstraightcurve	Wheels and Axlesassemblingjoiningshapingfinishingfixedfreemovingequipmentmaterials useddesignmakeevaluatepurposeusercriteria	PneumaticsComponentsFixingAttachingTubingSyringePlungersplit pinpaper fastenerpneumatic systeminput movementprocessoutput movementcontrolcompression	Levers and LinkagesMechanismLeverLinkagePivotSlotBridgeguidesysteminputprocessoutputlinearrotaryoscillating	CAMSCamsnail camoff-centre campeg campear shaped cam followeraxleshaftcrankhandlehousingframework rotationrotary motion	Pulleys or GearsPulleydrive beltgearrotationspindledriverfollowerratiotransmitaxlemotorcircuit

		Design and Tec	hnology – Progression of Skill	ls		
steering wheel	make	Axle holder	pump	function	exploded diagrams	exploded diagrams
seat	evaluate	Chassis	seal	prototype	mechanical system	mechanical system
figure	user	Body Cab	air-tight	design criteria	input movement	electrical system
shape names e.g. cube,	purpose	Assembling	linear	innovative	process	input
cuboid	ideas	Cutting	rotary	appealing	output movement design	
Build	design criteria	Joining, Shaping	user	design brief	decisions	process
Construct	product	Finishing	purpose		functionality	output
push together	function Key	Fixed	function		innovation	design decisions
pull apart	Vocabulary	Free Moving	prototype		authentic	functionality
big	Slider	Mechanism	design criteria		user	innovation
small	Lever	Names of	innovative		purpose	authentic
	Pivot	tools equipment and materials used	appealing			user
	Slot,		design brief research		design specification	
	Bridge/guide		evaluate		design brief	purpose
	Card		ideas			design specification
	Masking -		constraints			design brief
	Tape		investigate			
	Paper fastener Join		Mechanism		Pulley Drive belt	
	Pull		Lever		Gear	
	Push		Linkage Pivot		Rotation Spindle	
	Up		Slot		Driver	
	Down		Bridge Guide		Follower Ratio	
	Straight		System		Transmit	
	Curve		Input Process		Axle, Motor	
	Forwards		Output		Circuit	
	Backwards		Linear Rotary		Switch Circuit diagram	
			Oscillating		Annotated drawings	
			Reciprocating		Exploded diagrams Mechanical system	
					Electrical system	
					Input Process	
					Output	

Physical Development Exploring media and materials low to use one handed pols and equipment with ontrol to achieve their ntended purpose. To learn to handle and se equipment and tools ffectively, e.g. hammers, lay tools, scissors etc. To use scissors to cut out egular shapes.	 To work in a range of rel home and school, garder community, industry and To design purposeful, fu themselves and other us To generate, develop, m ideas through talking, dr where appropriate, infor technology 	rocess of designing and making. levant contexts [for example, the ns and playgrounds, the local d the wider environment]. unctional, appealing products for sers based on design criteria lodel and communicate their rawing, templates, mock-ups and, rmation and communication	 To work in a range of reenvironment]. To use research and deepurpose, aimed at parti To generate, develop, nexploded diagrams, proand equipment to perform and use a ingredients, according to products 	tanding and skills needed to engag levant contexts [for example, the l velop design criteria to inform the cular individuals or groups nodel and communicate their ideas totypes, pattern pieces and comptorm practical tasks [for example, cu a wide range of materials and com o their functional properties and a	nome, school, leisure, culture, en design of innovative, functional, s through discussion, annotated s iter-aided design select fror itting, shaping, joining and finishi ponents, including construction r	terprise, industry and the wider appealing products that are fit for sketches, cross-sectional and m and use a wider range of tools ing], accurately
lue and tape in joining naterials together.	 components, including c and ingredients, accordi To explore and evaluate To evaluate their ideas a criteria To build structures, explo stronger, stiffer and mor To explore and use mech 	a wide range of materials and construction materials, textiles ng to their characteristics a range of existing products and products against design oring how they can be made re stable manisms [for example, levers,	work To understand how key To apply their understa To understand and use understand and use ele and motors]	mechanical systems in their produ ctrical systems in their products [fo	nd technology have helped shape and reinforce more complex str cts [for example, gears, pulleys, c or example, series circuits incorpo	e the world uctures cams, levers and linkages] orating switches, bulbs, buzzers
ey Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes
uild structures, exploring ow they can be made tronger, tiffer and more stable tacking blocks vertically and orizontally bining construction pieces to uild and balance Making enclosures and reating spaces Uses various construction naterials Use a range of small tools, ncluding scissors, paint rushes and cutlery afely use and explore a ariety of materials, tools	 Freestanding structures make their own model stronger Designing Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings. Making Plan by suggesting what to do next. Select and use tools, skills and techniques, explaining 	 make a model stronger and more stable use wheels and axles, when appropriate to do so 	 Shell Structures – Using CAD (Computer Aided Design) Designing Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas. Making Plan the order of the main stages of making. Select and use appropriate tools and software to measure, mark out, cut, 	 Shell Structures Designing Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. Develop ideas through the analysis of existing shell structures and use computer- aided design to model and communicate ideas. Making Plan the order of the main stages of making. Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. 	 surveys, interviews, questionr Develop a simple design specidevelopment of their ideas and constraints including time, rest Generate, develop and model discussion, prototypes and and the subscript of the second se	ad products, taking account of sources and cost. I innovative ideas, through notated sketches. ing a step-by-step list of what resources to be used. use appropriate tools to c, cut, shape and join construction s. echniques suitable for the d making.
lu lu na i i i i i i i i i i i i i i i i i i	y Learning Outcomes ild structures, exploring w they can be made onger, ffer and more stable acking blocks vertically and rizontally ning construction pieces to ild and balance aking enclosures and eating spaces es various construction aterials e a range of small tools, cluding scissors, paint ushes and cutlery fely use and explore a	 propriate amount of the and tape in joining aterials together. To select from and use a components, including components, includ	propriate amount of ie and tape in joining atterials together.To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristicsTo explore and evaluate a range of existing productsTo explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.y Learning OutcomesKey Learning Outcomesild structures, exploring w they can be made onger, ffer and more stableFreestanding structures stronger• make their own model stronger• make their own model stronger• make their own experiences, explaining what they could make.• Designing es various construction paterials• Develop, model and communicate their ideas through talking, mock-ups and drawings.• Plan by suggesting what to do next.• Select and use tools, skills and techniques, explaining	 To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics To evaluate their ideas and products against design criteria To build structures, exploring how they can be made stronger, stiffer and more stable To explore and exeluate a range of existing products To explore and exeluate a range of existing products To apply their understand and use and motors] To apply their understand and use and motors To avaluate their ideas and products against design criteria To build structures, exploring how they can be made stronger, stiffer and more stable To explore and use mechanisms [for example, levers, silders, wheels and axles], in their products. Y Learning Outcomes Key Learning Outcomes Mex learning Outcomes Mex learning Outcomes Mex learning Outcomes Shell Structures – Using CAD (Computer Aided Design) Designing Generate ideas based on simple design criteria and ingridents, wheels and avales, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings. Develop, model and communicate their ideas through talking, mock-ups and drawings. Plan by suggesting what to do next. Select and use tools, skills and taching. Select and use tools, skills and taching. Select and use tools, skills and techniques, explaining 	 To select from and use a wide range of materials and components, including construction materials, textiles and ingeridents, according to their characteristics. To explore and evaluate a range of existing products against design criteria To build structures, exploring how they can be made stronger, stiffer and more stable onger, exploring more stable To explore and use mechanisms (for example, levers, stiffers and more stable stronger and their own model stronger and their and more stable stronger and their own model stronger and their and more stable Making enclosures and their own experiences, explaining what they could make. Develop, model and communicate their lideas and their is product. Beelsding sciences, paint using sciences, explaining structures are and more stable stronger stronger and more stable stronger sciences, explaining sciences, exp	 To select from and use a wide range of materials and components, lincluding construction materials, textiles and ingredients, according to their characteristics To explore and evaluate a range of existing products against design criteria To explore and use mechanical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, of understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understand and use electrical systems in their products [for example, gears, puleys, or understan

	Design and I	echnology – Progression of Skil		
experimenting with colour,	Select new and reclaimed	score, shape and assemble	• Explain their choice of	Criticall
design, texture, form, and	materials and construction	with some accuracy.	materials according to	specifica
function	kits to build their structures.	Explain their choice of	functional properties and	and area
	Use simple finishing	materials according to	aesthetic qualities.	Researce
Share their creations,	techniques suitable for the	functional properties and	Use computer-generated	structur
explaining the process they	structure they are creating.	aesthetic qualities.	finishing techniques suitable	
have used		 Use computer-generated 	for the product they are	Technical
	Evaluating	finishing techniques suitable	creating.	Underst
	Explore a range of existing	for the product they are		framew
	freestanding structures in the	creating.	Evaluating	
	school and local environment		Investigate and evaluate a	 Know ar
	e.g. everyday products and	Evaluating	range of shell structures	•
	buildings.	 Investigate and evaluate a 	including the materials,	
	C I I I I I I I I I I I I I I I I I I I	range of shell structures	components and techniques	
	Evaluate their product by	including the materials,	that have been used.	
	discussing how well it works	components and techniques	• Test and evaluate their own	
	in relation to the purpose, the user and whether it	that have been used.	products against design criteria	
	meets the original design	Test and evaluate their own	and the intended user and	
	criteria.	products against design	purpose.	
	chiena.	criteria and the intended user	To shut all he sude days and	
		and purpose.	Technical knowledge and	
	Technical knowledge and		understanding	
	understanding	Technical knowledge and	• Develop and use knowledge of nets of cubes and cuboids	
	Know how to make	understanding		
	freestanding structures	•	and, where appropriate, more	
	stronger, stiffer and more	Develop and use	complex 3D shapes.	
	stable.	knowledge of nets of cubes	• Develop and use knowledge of how to construct strong,	
	Know and use technical	and cuboids and, where	stiff shell structures.	
	vocabulary relevant to the	appropriate, more complex	Know and use technical	
	project.	3D shapes.		
		Develop and use knowledge	vocabulary relevant to the	
		of how to construct strong,	project.	
		stiff shell structures.		
		 Know and use technical 		
		vocabulary relevant to the		
		project.		
Final Outcome	Final Outcome		Final O	utcome
• To learn how to use a	• To build structures, exploring how they can be made	To apply their understar	nding of how to strengthen, stiffen	and reinfo
range of tools, e.g.	stronger, stiffer and more stable.			
scissors, hole punch,				
stapler,				
woodworking tools,				
rolling pins, pastry				
rolling pins, pastry cutters.				
cutters.				
cutters.Learn how everyday				
cutters.Learn how everyday objects work by	Freestanding structures	Shell Structures – Using CAD	Shell Structures	Frame St
cutters.Learn how everyday objects work by	-	Shell Structures – Using CAD (Computer Aided Design)	Shell Structures • gift boxes	Frame Sti
cutters.Learn how everyday objects work by	enclosures for farm or zoo animals			
cutters.Learn how everyday objects work by	enclosures for farm or zoo animals playground/park/garden furniture	(Computer Aided Design)	gift boxes	• p
cutters.Learn how everyday objects work by	enclosures for farm or zoo animals	(Computer Aided Design) • gift boxes	gift boxesdesk tidy	• p • m

ally evaluate their products against their design fication, intended user and purpose, identifying strengths reas for development, and carrying out appropriate tests. arch key events and individuals relevant to frame cures.

cal knowledge and understanding

rstand how to strengthen, stiffen and reinforce 3-D eworks.

and use technical vocabulary relevant to the project.

force more complex structures.

Structures

- playground shelter
- market stall
- bus shelter
- tent
- play house

Key vocabulary	Key vocabulary	Key Vocabulary	Key Vocabulary	
	furniture for the Three Bears other – specific	 party boxes mystery boxes toy car body shell moneyboxes 	 mystery boxes toy car body shell moneyboxes 	• g • b • p • p • a • k

gazebo
bird hide
parasol
park furniture
adventure playground equipmen
kite

Key Vocabulary

Кеу	Freestanding structures	hnology – Progression of Skills Shell Structures – Using CAD (Computer Aided Design)	Frame St
Vocabulary	Design	shell structure	frame str
Cut	Make	three-dimensional (3-D) shape net	stiffen
Fold Join	Evaluate	cube	strengthe reinforce
Fix	User	cuboid	triangula
Structure	Purpose	prism	stability
Wall		vertex	shape
Tower	Ideas	edge	join
Weak	design criteria	face	tempora
Strong	product		permane
Base Top	function	length	design br design sp
Underneath	Cut	width	prototyp
Side	Fold	breadth	annotate
Edge	Join	capacity	purpose
Thinner	Fix	marking out	user
Thicker		scoring	innovatio
Corner	Structure	shaping	research
Straight Curved	Wall	tabs	functional Frame st
Metal	Tower	adhesives	Stiffen
Wood	Framework	joining	Strength
Plastic	Weak,	assemble	Reinforce
Circle	Strong	accuracy	Triangula
Triangle	Base	material	Stability
Square Rectangle	Тор	stiff	Shape Join
Cuboid	Underneath	strong	Tempora
Cube	Side	reduce	Permane
Cylinder			
	Edge	reuse	
	Surface	recycle	
	Thinner	corrugating	
	Thicker	ribbing	
	Corner	laminating	
	Point	font	
	Straight	lettering	
	Curved	text	
	Metal	graphics	
		decision	
	Wood	evaluating	
	Plastic	design brief	
	Circle	design criteria	
	Triangle	innovative	
	Square	prototype	
	Rectangle		

e Structures e structure

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n specification

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orary anent

_		_ co.g.: a.i.a. i co	
		Cuboid	
		Cube	
		Cylinder	

EYFS	Year 1	Year 2	chnology – Progression of Year 3	Year 4	Year 5	Year 6
 To begin to understand some of the tools, techniques and processes involve in food preparation. Children have basic hygiene awareness. 	 how to cook and apply healthy eating. Instilling also open a door to or human creativity. Learning how to cook pupils to feed themse well, now and in later Pupils should be taught to: use the basic principle prepare dishes understand where for 	es of a healthy and varied diet to ad comes from. s of a healthy and varied diet to	eating. Instilling a love of cool Learning how to cool later life. Pupils should be taught to: understand and apple prepare and cook a v 	oking in pupils will also open c is a crucial life skill that enal y the principles of a healthy a ariety of predominantly savo	a door to one of the great exp bles pupils to feed themselves and varied diet oury dishes using a range of co	and others affordably and well, now and
	Key Learning Outcomes			Кеу	/ Learning Outcomes	
	 Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. 				oury dishes using a range of co	oking techniques grown, reared, caught and processed.
 Learn to use cutlery effectively to cut food including challenging food that needs more stabilising whilst being cut Learn to prepare a healthy snack and explain choices. Name the fruit Select a piece, say please and thank you To know to wash hands before selecting snack and eating Willing to try a range of different textures and tastes and expresses a preference. 	 Preparing fruits and vegetable Design appealing products for simple design criteria. Generate initial ideas and der a variety of fruit and vegetable Communicate these ideas the Making Use simple utensils and equit squeeze, grate and chop safe Select from a range of fruit and characteristics e.g. colour, the product. Weigh ingredied describe the ingredients used Evaluating Taste and evaluate a range of determine the intended user Evaluate ideas and finished princluding intended user and the describe the ingredients and finished princluding intended user and the describe the ingredient user and the describe the ingredient user and the describe the ingredient user and the including intended user and the describe the ingredient user and the describe the ingredient user and the describe the ingredient user and the including intended user and the describe the describe the user and the describe the describe the user and the describe the user and the describe the user and the describe the describe the describe the user and the describe the de	or a particular user based on sign criteria through investigating les. rough talk and drawings. pment to e.g. peel, cut, slice, ely. nd vegetables according to their xture and taste to create a chosen ents to use in a recipe when making a dish or cake of fruit and vegetables to 's preferences. products against design criteria, purpose. erstanding f fruit and vegetables come from	 texture and aroma for an a user and purpose. Use annotated sketches an communication technology develop and communicate Making Plan the main stages of a reand equipment. Select and use appropriate and combine ingredients. Select from a range of ingraproducts, thinking about set Evaluating Carry out sensory evaluation products. Record the evaluation graphs. Evaluate the ongoing work 	iteria including appearance, t ppealing product for a particul d appropriate information ar , such as web-based recipes, ideas. ecipe, listing ingredients, uter utensils and equipment to p edients to make appropriate ensory characteristics. ons of a variety of ingredients ations using e.g. tables and si and the final product with teria and the views of others.	 taste, with peers and addinates a design specificat Explore a range of develop a final production te communication te communication te communicate ideat Making Write a step-by-st equipment and ut Select and use app to measure and communicate ideat Make, decorate ar for the intended ut Carry out sensory and ingredients. R tables/graphs/cha Evaluate the final brief and design sp others when ident 	ve ideas through research and discussion ults to develop a design brief and criteria ion. initial ideas, and make design decisions t oduct linked to user and purpose. ated sketches and information and chnology as appropriate to develop and s. ep recipe, including a list of ingredients, ensils propriate utensils and equipment accurate ombine appropriate ingredients. and present the food product appropriately

	 Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eat well plate</i>. Know and use technical and sensory vocabulary relevant to the project. 	 Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Know and use relevant technical and sensory vocabulary appropriately 	т • •
Final Outcome	Final Outcome	Final Outcome	
 Wash and prepare/chop fruit/snack with adult supervision Offer snack using polite language – would you like a Use language sweet, sour, juicy To know to wash hands before preparing, selecting or eating snack/lunch To make healthy choices of food and drink (water 	 Preparing fruits and vegetables fruit salads fruit yogurt fruit drinks fruit jelly fruit smoothies vegetable salads fruit and vegetable kebabs 	Healthy and varied diet sandwiches wraps rolls pitta pockets blinis rice cakes toasties snack bar salad snacks 	
or milk) Key vocabulary	Key vocabulary	Key Vocabulary	
Fruit and vegetable	Preparing fruits and vegetables	Healthy varied diet	C
names		planning	r
Names of equipment	sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky,	design criteria	S
and utensils	smooth, sharp, crisp, sour, hard	purpose	9
Seed Slicing	flesh	user	i
Peeling	skin	annotated sketch	
Cutting	seed		
Squeezing	pip core	sensory evaluations	
Healthy diet	slicing	Name of products Names of equipment	
Ingredients		Utensils	
Sweet	peeling	Techniques	
Sour	cutting	Ingredients	
Juicy	squeezing	Texture	
	healthy diet	Taste	
	choosing	Sweet	
	ingredients	Sour	
	planning	Hot Spicy	
	investigating tasting	Appearance	
	arranging	Smell	
		Preference	
	popular	Greasy	
	design	Moist,	,
	evaluate	Cook	
	criteria	Fresh	
	E. M.	Savoury	
	Fruit	Hygienic	· ا

al knowledge and understanding

- how to use utensils and equipment including heat s to prepare and cook food.
- stand about seasonality in relation to food products and urce of different food products.
- and use relevant technical and sensory vocabulary.

Final Outcome

ting Culture and Seasonality

- bread
- pizza
- savoury biscuits
- savoury scones
- savoury muffin
- cereal snack

Key Vocabulary

ting Culture Seasonality in

pecification ve

rief nts

ieal ned oda

drate,

	Grown	Dairy
	Reared	Allergy
	Caught	Intolerance
	Frozen	Savoury
	Tinned,	Source,
	Processed	Seasonality
	Seasonal	Utensils
	Harvested	Combine
	Healthy/varied diet	Fold,
		Knead
		Stir
		Pour
		Mix
		Whisk
		Beat
		Roll out
		Shape

Textiles	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles	EYFSPhysical Development Exploring media and materialsHow to use one handed tools and equipment with control to achieve their intended purpose.How to thread a needle and sew a simple running stitch.How to cut using scissors To learn to handle and use equipment and tools effectively, e.g. hammers, clay tools, scissors etc.To use scissors to cut out regular shapes.To learn how to use the appropriate amount of glue and tape in joining materials together.	National Curriculum Pupils should be taught: • The knowledge, understernengage in an iterative prevention of the sengage in an iterative prevention of the sender of the	anding and skills needed to rocess of designing and making. levant contexts [for example, the ns and playgrounds, the local d the wider environment]. unctional, appealing products for sers based on design criteria todel and communicate their rawing, templates, mock-ups and, rmation and communication a range of tools and equipment to for example, cutting, shaping, a wide range of materials and construction materials, textiles ng to their characteristics a range of existing products and products against design oring how they can be made re stable manisms [for example, levers,	National Curriculum Pupils should be taught: • The knowledge, understanding and skills needed to engage in an iterative process of designing and making • To work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, indust environment]. • To use research and develop design criteria to inform the design of innovative, functional, appealing product purpose, aimed at particular individuals or groups • To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-exploded diagrams, prototypes, pattern pieces and computer-aided design select from and use a wide and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • To select from and use a wide range of materials and components, including construction materials, textile		ning and making. terprise, industry and the wider appealing products that are fit for ketches, cross-sectional and n and use a wider range of tools ng], accurately naterials, textiles and e and analyse a range of existing vs of others to improve their the world uctures ams, levers and linkages] orating switches, bulbs, buzzers	
	Key Learning Outcomes	Key Learnin	ng Outcomes	Key Learnin	g Outcomes	Key Learning Outcomes	Key Learning Outcomes
	 measure, cut and join textiles to make a product, with some support 	 information and communication Making Select from and use a range of practical tasks such as marking finishing. Select from and use textiles active to the project being up to the project	ling product for a chosen user design criteria. communicate their ideas as rawing, templates, mock-ups and on technology. tools and equipment to perform out, cutting, joining and cording to their characteristics.	 2-D shape to 3-D product Designing Generate realistic ideas throug for an appealing, functional prospecific user/s. Produce annotated sketches, p sketches and pattern pieces. Making Plan the main stages of making Select and use a range of approaccuracy e.g. cutting, joining ar Select fabrics and fastenings ac characteristics e.g. strength, ar pattern. Evaluating Investigate a range of 3-D textiproject. 	oduct fit for purpose and prototypes, final product g. opriate tools with some nd finishing. ccording to their functional nd aesthetic qualities e.g.	 Combining different fabric shapes Designing Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. 	Using computer aided design (CAD) in textiles Designing • Generate innovative ideas through research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes including using computer- aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Making

Year 5

	Design and reci	nnology – Progression of Skills		
	 Technical knowledge and understanding Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project. 	 Test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric. Technical knowledge and understanding Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project. 	 Making Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. Evaluating Investigate and analyse textile products linked to their final product. Compare the final product to the original design specification. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Technical knowledge and understanding A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate. 	 Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. Evaluating Investigate and analyse textile products linked to their final product. Compare the final product to the original design specification. Test products with intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Technical knowledge and understanding A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened
Final Outcome	Final Outcome	Final Outcome	. Final Outcome	Final Outcome
 To learn to construct with a purpose in mind. Selects tools and techniques needed to shape, assemble and join materials Bookmarks Calendar 	 Templates and joining techniques glove puppet finger puppet simple bag clothes for teddy/soft toy/class doll fabric placemat 	 2-D shape to 3-D product purse/wallet soft toy/mascot apron fashion accessory beach bag shoe bag pencil case story sack 	Combining different fabric shapes tablet case mobile phone carrier shopping bag insulating bag hat/cap garden tool belt slippers sandals fabric advent calendar fabric doorstop	Using computer aided design (CAD) in textiles tablet case mobile phone carrier shopping bag insulating bag hat/cap garden tool belt slippers sandals fabric advent calendar

				fabric doorstop
Key vocabulary	Key vocabulary	Key Vocabulary	Key Vocabulary	Key Vocabulary
Кеу	Templates and joining techniques	2-D shape to 3-D product	Combining different fabric	Using computer aided desig
/ocabulary	names of existing products	fabric, names of fabrics, fastening	shapes	(CAD) in textiles
oining and finishing	joining and finishing techniques	compartment, zip	design criteria	computer aided design (CA
echniques	tools	button	annotate,	computer aided manufact
ools abrics	fabrics	structure	design decisions	(CAM) font
bin			functionality	lettering
ecorate	components	finishing technique	innovation	text
	template	strength	authentic	graphics
	pattern pieces	weakness		menu
	mark out	stiffening	user	scale
	features	templates	purpose	modify
	suitable	stitch	evaluate	repeat
	quality mock-up	seam	mock-up	сору
	design brief	seam allowance	prototype	flip docign brief
	design criteria	user	Seam	design brief design criteria
	make		Seam allowance	design decisions
		purpose	Wadding	innovative
	evaluate	design	Reinforce	prototype
	user	model	Right side	seam
	purpose	evaluate	Wrong side	seam allowance
	function	prototype	Hem Template	wadding
		annotated sketch	Pattern pieces	reinforce
		functional	Name of textiles and	right side
		innovative	fastenings used	wrong side hem
		investigate	Pins	template
		label	Needles	pattern pieces
			Thread	fastenings
		drawing	Fastenings	pins
		aesthetics		needles
		function		thread
		pattern pieces		pinking shears
		Fabric		fastenings
		Names of fabrics		iron transfer paper annotate
		Fastening		functionality
		Compartment		innovation
		Zip Button		authentic
		Structure		user
		finishing techniques		purpose
		Strength		evaluate
		Weakness		mock-up
		Stiffening		ptototype
		Templates		
		Stitch		
		Seam		
		Seam allowance		

Electrical systems	EYFS	Year 1	Year 2	Year	Year 4	Year 5	Year 6
National Curriculum Pupils should be taught: • The knowledge, understanding and skills needed to engage in an iterative process of designing a • To work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprenvironment]. • To use research and develop design criteria to inform the design of innovative, functional, appe purpose, aimed at particular individuals or groups • To generate, develop, model and communicate their ideas through discussion, annotated sketcl exploded diagrams, prototypes, pattern pieces and computer-aided design select from and and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], a • To select from and use a wide range of materials and components, including construction materials						terprise, industry and the wider appealing products that are fit for ketches, cross-sectional and n and use a wider range of tools ng], accurately naterials, textiles and and analyse a range of existing vs of others to improve their the world actures ams, levers and linkages] orating switches, bulbs, buzzers	
	Key Learning Outcomes	Key Learning Outcomes	Key Learning Outcomes	To apply their understand Key Learning Outcomes	nding of computing to program, m Key Learning Outcomes	nonitor and control their products. Key Learning Outcomes	Key Learning Outcomes
				 Simple programming and control Designing Gather information about users' needs and wants, and develop design criteria to inform the design of products that are fit for purpose. Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. Making Order the main stages of making. Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Connect simple electrical components and a battery in a series circuit to achieve a functional outcome. 	Simple Circuit and Switches Designing Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. Making Order the main stages of making. Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Select from and use materials and components, including construction materials and electrical	 Monitoring and Control Designing Develop a design specification for a functional product that responds automatically to changes in the environment. Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. Making Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. 	 More Complex Switches and circuits Designing Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. Generate and develop innovative ideas and share and clarify these through discussion. Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams. Making Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select and accurately assemble

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Design and Technology – Progression of Skills							
			 Program a standalone control box, microcontroller or interface box to enhance the way the product works. Evaluating Investigate and analyse a range of existing battery- powered products, including pre-programmed and programmable products. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. Technical knowledge and understanding Understand and use computing to program and control products containing electrical systems, such as series circuits incorporating switches, bulbs and buzzers. Know and use technical vocabulary relevant to the project. 	components according to their functional properties and aesthetic qualities. Evaluating • Investigate and analyse a range of existing battery- powered products. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. Technical knowledge and understanding • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project.	 Create and modify a computer control program to enable their electrical product to respond to changes in the environment. Evaluating Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Technical knowledge and understanding Understand and use electrical systems in their products. Understand the use of computer control systems in products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project. 	 materials, and securely connect electrical components to produce a reliable, functional product. Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment. Evaluating Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Investigate famous inventors who developed ground- breaking electrical systems and components. Technical knowledge and understanding Understand and use electrical systems in their products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project. 	
Final Outcome	Final Outcome	Final Outcome	Final Outcome	Final Outcome	Final Outcome	Final Outcome	
			Simple programming and control • illuminated sign • noise-making toy vehicle • nightlight • display lighting	 Simple Circuit and Switches siren for a toy vehicle reading light noise-making toy nightlight illuminated sign torches table lamp lighting for display hands-free head lamp buzzer for school office 	 Cycle or vehicle alarm security lighting system alarm for valuable artefact garden light automatic nightlight electronic moneybox alarm for school shed 	 More Complex Switches and Circuits vehicle alarm security lighting system alarm for valuable artefact automatic nightlight electrical board game alarm for school shed 	

Key vocabulary	Key vocabulary	Key Vocabulary	Chnology – Progression of Skil Key Vocabulary	Key Vocabulary	Key Vocabulary	Key Vocabulary
			Simple programming and control series circuit fault connection toggle switch push-to-make switch battery battery holder light emitting diode (LED) bulb bulb holder USB cable Wire Insulator Conductor crocodile clip control program system input device output device process user purpose function prototype design criteria innovative appealing design brief	Simple Circuit and Switches series circuit fault connection toggle switch push-to-make switch push-to-break switch battery battery holder bulb bulb holder wire insulator conductor crocodile clip control program system input device output device user purpose function prototype design criteria innovative appealing design brief	Monitoring and Control reed switch toggle switch push-to-make switch light dependent resistor (LDR) tilt switch light emitting diode (LED) bulb bulb holder battery battery holder USB cable Wire Insulator Conductor crocodile clip control program system input device output device series circuit parallel circuit function innovative design specification design brief user purpose	More Complex Switches and Circuits series circuit parallel circuit names of switches and components input device output device system monitor control program flowchart function innovative design specification design brief user purpose