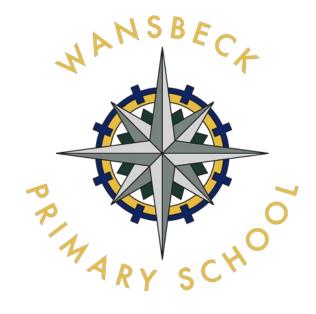
Wansbeck Primary School Long Term Plan Design and Technology



EYFS		
Cycle 1		
My Life and our World	Farmyard Adventure	Travel
Potential opportunities/ideas:	Potential opportunities/ideas:	Potential opportunities/ideas:
Cycle 2		
We are Superstars	Woodland Journey	Deep in the Ocean
Potential opportunities/ideas:	Potential opportunities/ideas:	Potential opportunities/ideas:

Key Stage 1 Cycle 1 Fossil Hunters 3Ps: Create a card (Y1) or book (Y2) with a dinosaur design to entertain a friend

			Substantive Knowle	edge - Sequence of Lear	rning		
Year 1 and 2 Sticky Knowledge	Look at understand a variety of cards and picture books and their purposes	Know about which products work well and who they are created for.	Develop measuring, cutting and joining skills to help with design and lever.	Know how to create a moving part for a scene using levers.	Plan and design their own card or story book	Create original work using mechanism (Y2 more than one mechanisms)	Evaluate their own work showing understanding of what they do and do not like.
			Disciplinary Knowledge t	o be linked Substantive Kn			
Research, Design and Evaluate Y1 Research, Design and Evaluate Y2	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design Evaluate Existing Products: what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves of others Use pictures and words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
K51Specific Skill: Mechansims K51Specific			Measure and mark out card	Create a mechanism using a lever Use the lever to move an object/picture	Create a mechanism Use the lever to mov	ve an object/picture	template Cut materials safely
Skill: construction			to be cut using a template. Cut materials safely using tools. Measure and mark out to nearest centimetre,		Measure and mark out card to be cut using a template. Cut materials safe using tools. Measure and mark out to nearest centimetre,		

Year 1 and 2 – Heroic Adventures

3Ps: Create a smoothie that you can eat including healthy eating and fruits found in Australia

			Substantive Knowledg	ge - Sequence of Learning			
Year 1 and 2 Sticky Knowledge	Look at understand a variety of smoothies and the ingredient they contain	Know about which products work well, who they are created for and where they come from.	Understand which foods are healthy and where they come from.	Understand how to prepare fruit for eating	Plan and design their own healthy smoothie	Create smoothie	Evaluate their own work showing understanding of what they do and do not like.
			Disciplinary Knowledge to	be linked Substantive Knowledge			
Research, Design and Evaluate Y1 Research, Design and Evaluate Y2	existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design Evaluate Existing Products: What products are who products are for Use knowledge of the section of			Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making Use drawings to record ideas as they are developed Add notes to drawings to help			Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
	what products are for how products work what materials products are made from what they like and dislike about products	existing products to help come up with ideas. Design products with an intended user			explanations Design products purpose and an	rawings to help s that have a clear intended user using g, templates and	
KS1Specific Skill: Make food			Understanding the basic principles of a healthy diet Know that all food comes from plants or animals how to name and sort foods into the five groups in The eatwell plate that everyone should eat at least five portions of fruit and vegetables every day	Cut, peel or grate ingredients safely Measure and weigh food items using non-statutory measures such as cups Demonstrate how to work safely and hygienically Develop a food vocabulary using taste, touch smell, and texture	Measure a cupsDeveloping		g non-statutory measures such as taste, smell, touch and texture

Year 1 and 2 – Rainforest Romp

3Ps: Make a badge with a logo to promote saving the rainforest

			Substantive k	(nowledge - Sequence of L	-earning		
Year 1 and 2 Sticky Knowledge	Look at a variety of badges and their purposes. Understand what logos are	Know about which products (logos) work well, who they are created for and their pruposes.	Understand how to join fabric.	Understand how to add decoration to fabric	Plan and design their own badge including a logo to save the rainforest	Create original work using textiles	Evaluate their own work showing understanding of what they do and do not like.
Research, Design and Evaluate Y1	existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design Evaluate Existing Products: help develop idea and explain what they are making which materials they are using. Say whether the products are for themselves of others Use pictures and	they are using. Say whether their products are for themselves of	Disciplinary Knowl	edge to be linked Substantive	Make a simple plan before m	Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points	
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	what products are words to convey what they want to make what products are for now products work what materials products what made from what they like and dislike words to convey what they want to make			Use drawings to record i developed Add notes to drawings to Design products that hav an intended user using to templates and mockups.		
KS1Specific Skill: Textiles			Join their fabrics with glue or by using running stich, staples or oversewing	Decorate their design with buttons, beads, sequins, braids and ribbons	Join their fabrics with glue Decorate their design wi		

Year 1 and 2 Cycle 2Fiery Dragons 3Ps:Design a scene of the fire of London to educate others about its spread

			Substantive 1	Knowledge - Sequence of	Learning		
Year 1 and 2 Sticky Knowledge	Know about the fire of London and what a moving picture scene is.	Know about which products work well and who they are created for.	Know about measuring and cutting materials following a template design and measuring using rulers.	Know how to create a moving part for a scene using levers.	Plan and design their own moving picture scene.	Create original work using construction and mechanism (Y2 more than one mechanism)	Evaluate their own work showing understanding of what they do a <mark>nd not like.</mark>
			Disciplinary Knowl	edge to be linked Substantiv	e Knowledge		
Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves of others			.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making Lise drawings to record ideas as they are		Say what they like and do not about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	Evaluate Existing Products: what products are for what products are for how products work what materials products are made from what they like and dislike about products	Use pictures and words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		
KS1 Specific				Create a mechanism	Create a mechanism usin	ıg a lever	
Skill Mechanisms				using a lever Use the lever to move an object/picture	Use the lever to move an object/picture		
KS1 Specific Skill Construction			Measure and mark out card to be cut using a template Cut materials safely using the tools provided.		Measure and mark out card to be cut using a template Cut materials safely using the tools provided. Measure and mark out to the nearest centimetre Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)		
			to the nearest				

Year 1 and 2 – Colours in the Rainbow 3Ps: Make a modern 3D room for a dolls house to update it and make it more appealing for children today.

			Substantive k	(nowledge - Sequence of L	earning		
Year 1 and 2 Sticky Knowledge	Know about toys from the Victorian era	Know about which products work well and who they are created for.	Know about measuring and cutting materials following a template design and measuring using rulers.	Know how to join materials to create a structure	Plan and design their own 3D room that could be placed into a dolls house.	Create original work using construction	Evaluate their own work showing understanding of what they do and do not like.
			Disciplinary Knowl	edge to be linked Substantive			
Research, Design and Evaluate Y1	and Evaluate Y1 existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design Evaluate Existing Products: help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves of others Use pictures and				.Use own ideas to design and describe how it works through talking and drawing Make a simple plan before making		Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	words to convey what they want to make Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.		
KS1Specific Skill: Construction			Measure and mark out card to be cut using a template Cut materials safely using tools provided Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) Cut materials safely using tools provided Measure and mark out to the nearest cm.	Join the card to make a 3D container using a template Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)	Cut materials safely using tools provided Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) Cut materials safely using tools provided Measure and mark out to the nearest cm.		

Year 1 and 2 – Seaside Adventure

3Ps: Make a picnic lunch suitable to take to the seaside

	Substantive Knowledge - Sequence of Learning											
Year 1 and 2 Sticky Knowledge	Look at understand a variety of picnic lunches (literacy link)	Know about which products work well, who they are created for and where they come from.	Understand which foods are healthy and where they come from.	Understand how to prepare food for eating	Plan and design their own healthy picnic lunch	Create picnic lunch	Evaluate their own work showing understanding of what they do and do not like.					
			Disciplinary Knowledge to be	linked Substantive Knowled	dge							
Research, Design and Evaluate Y1	Explore a range of existing products, discussing how they are made and how they work. Discuss how these products could help them with their own design Evaluate Existing Products:	Select picture to help develop ideas and explain what they are making and which materials they are using. Say whether their products are for themselves of others Use pictures and words to convey what they want to make			works through talki Make a simple plan l	pefore making	Say what they like and do not like about the product they have made and why Talk about their design and identify good and bad points					
Research, Design and Evaluate Y2	what products are who products are for what products are for how products work what materials products are made from what they like and dislike about products	Use knowledge of existing products to help come up with ideas. Design products with an intended user			Use drawings to record ideas as they are developed Add notes to drawings to help explanations Design products that have a clear purpose and an intended user using talking, drawing, templates and mockups.							
KS1Specific Skill: Construction			Understanding the basic principles of a healthy diet Know that all food comes from plants or animals how to name and sort foods into the five groups in The eatwell plate that everyone should eat at least five portions of fruit and vegetables every day	Cut, peel or grate ingredients safely Measure and weigh food items using nonstatutory measures such as cups Demonstrate how to work safely and hygienically Develop a food vocabulary using taste, touch smell, and texture	Demonstrate how to work safely and hygienically							

Lower Key Stage 2 – Cycle 1Stone Age

3Ps: Make a shelter which could be suitable for a person living in the stone age

			Substantive k	(nowledge - Sequence of Learning			
Year 3 and 4 Sticky Knowledge	Know what a Stone age shelte looked like and why they were suitable for that time era.	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a structure	Plan and design their own shelter suitable for the stone age	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
			Disciplinary Knowle	edge to be linked Substantive Knowledge	e		
Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing their features, construction, purpose and intended users.	Identify a target audience for the product and ask some questions Use research to develop design criteria			base the design Develop ideas a and annotated of Think ahead ab	nd plans through discussion	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	Evaluate Existing Products: where products were designed and made when products were designed and made Whether products can be recycled or reused				functional survi products to hel they are made develop more the an initial design indicate the de that will appeal	analyse a range of existing val products and draw/sketch p understand how and why nan one design or adaptation of sign features of their products to intended users ticular parts of their products	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre	Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	Cut materials acc the perimeter of Measure and mark Select appropri Understand how	urately and safely by selecting appropriate material) cout to the nearest millimetre late joining techniques v a wide base of a 3D object makes techniques to construct produces	kes it more stable.

Year 3 and 4 – Vicious Vikings or Sensible Settlers

3Ps: Make a dragon toy with light up eyes and moving mouth

			Substantive Knowledge -	Sequence of Learning			
Year 3 and 4 Sticky Knowledge	Understand existing toys and who they are suitable for	Know about which products work well and why	Know how to create a moving part	Know how to create an electrical circuit	Plan and design their own dragon toy	Create original work using construction	Evaluate their own work showing understanding o how they have met the design criteria
			Disciplinary Knowledge to be li	nked Substantive Knowledge	,		
Research, Design and Evaluate Y3 Research, Design and Evaluate Y4	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing their features, construction, purpose and intended users. Evaluate Existing Products: where products were designed and made when products were designed and made Whether products can be recycled or reused	Identify a target audience for the product and ask some questions Use research to develop design criteria			investice existing draw/s how and develop adaptar indicate product	with purpose by identifying users the design round dideas and plans through ion and annotated drawings thead about the order of their describe the purpose of their ts gate and analyse a range of g functional survival products and ketch products to help understand d why they are made o more than one design or tion of an initial design the the design features of their ts that will appeal to intended how particular parts of their ts work	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved. Y4 - evaluate agains own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Electronics				Understand and create an electrical circuit Create series and parallel circuits Know how simple electric circuits and components can be used to create functional products	Create Know h create Build on appropri and gear Knowled	tand and create an electrical circuits series and parallel circuits ow simple electric circuits and comp functional products scientific knowledge of the transference ate mechanisms (such as levers, winding nes) ge of pully systems to solve a problem and construct mechanism systems.	onents can be used to

LKS2 Specific Skill: Mechanisms		Build on scientific knowledge of the transference of forces to choose appropriate mechanisms (such as levers, winding mechanisms, pulleys, pumps and gears) Knowledge of pully systems to solve a		
		problem		
		Attach and construct mechanism systems.		

Year 3 and 4 – The Frozen Planet 3Ps: **Design a bag to take on an Arctic expeditions strong enough to hold an ipad.**

				Substantive Knowle	edge - Sequence of Le	earning		
Year 3 and 4 Sticky Knowledge	Investigate and analyse a range of existing products (bags) and equipment Antarctic explorers would need.	Understand how bags are constructed and which materails are most suitable	Understand basic stitching techniques	Create designs using stitching	Understand fastenings in textiles	Design a bag for an Antarctic Expedition	Make a bag for an Antarctic expedition using a range of stitching techniques	Evaluate their own work showing understanding of how they have met the design criteria
		<u> </u>		Disciplinary Knowledge	to be linked Substantive	Knowledge		
Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing	Identify a target audience for the product and ask some questions Use research to develop design criteria				Design with purpose be to base the design ro Develop ideas and pla discussion and annota Think ahead about the work • describe the products	und ns through ted drawings e order of their	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
Research, Design and Evaluate Y4	their features, construction, purpose and intended users. Evaluate Existing Products: where products were designed and made when products were designed and made Whether products can be recycled or reused					investigate and analysexisting functional sudraw/sketch product how and why they are develop more than on adaptation of an initial indicate the design for products that will appusers explain how particular products work	rvival products and s to help understand made e design or al design eatures of their leal to intended	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Textiles			Join textiles neatly using basic stitch techniques (running, back and oversewing)	Decorate using cross stitch	Explore fastenings and recreate some (for example sewing on buttons and creating loops)	Decorate using cross	stitch	(running, back and oversewing) le sewing on buttons and creating

Year 3 and 4 Cycle 2Where the Tudors really terrible? 3Ps: Design a house suitable for a Tudor person in modern day Britain

			Substantive k	(nowledge - Sequence of L	earning		
Year 3 and 4 Sticky Knowledge	Know what a Tudor house looked like and why they were suitable for that time era.	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a structure	Plan and design their own house suitable for a Tudor	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
			Disciplinary Knowle	edge to be linked Substantive	: Knowledge		
Research, Design and Evaluate Y3	events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing their features,				Design with purpose by it base the design round Develop ideas and plans tannotated drawings Think ahead about the ordescribe the purpose of	hrough discussion and rder of their work •	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved.
and Evaluate Y4	and intended users. Evaluate Existing Products: where products were designed and made when products were designed and made				investigate and analyse a functional survival products to help underst are made develop more than one do an initial design indicate the design featuthat will appeal to intend explain how particular pawork	cts and draw/sketch and how and why they esign or adaptation of ures of their products led users	Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Cut materials accurately and safely by selecting appropriate tools (including within the perimeter of the material) Measure and mark out to the nearest millimetre	Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.	Select appropriate joining techniques Understand how a wide base of a 3D object makes it more stable. Choose suitable techniques to construct products or to repair items.		

Year 3 and 4 – The Lonely Planet

3Ps: Create a menu using sustainable ingredients and thinking of fair trade (eg pesto pasta)

				Substantive Knowle	edge - Sequence of Le	earning	
Year 3 and 4 Sticky Knowledge	Know about recipes that exist and where the ingredients come from	Understand which menus work well and who enjoys them	Understand healthy ingredients and how/when they are grown	Understand how to prepare ingredients for a recipe	Understand how to cook food	Plan and design their own recipe using sustainable ingredients	Evaluate their own work showing understanding of what they do and do not like.
Research, Design and Evaluate Y3 Research, Design and Evaluate Y4	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisitng products, discussiing their features, construction, purpose and intended users. Evaluate Existing Products: where products were designed and made when products were designed and made Whether products can be recycled or reused	Identify a target audience for the product and ask some questions Use research to develop design criteria		Disciplinary Knowledge	to be linked Substantive	Design with purpose by identifying users to base the design round Develop ideas and plans through discussion and annotated drawings Think ahead about the order of their work · describe the purpose of their products investigate and analyse a range of existing functional survival products and draw/sketch products to help understand how and why they are made develop more than one design or adaptation of an initial design indicate the design features of their products that will appeal to intended users explain how particular parts of their products work	Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could be improved. Y4 - evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Make healthy eating choices from an understanding of a balanced diet when designing their product.	 Prepare ingredients hygienically using appropriate utensils. Measure ingredients to 	Assemble or cook ingredients sweet or savoury (controlling the temperature of the oven or	 Prepare ingredients hygienically use Measure ingredients to the neares Follow a recipe. Use a range of techniques such as grating, mixing, spreading, kneading Assemble or cook ingredients swe temperature of the oven or hob, in 	st gram accurately. peeling, chopping, slicing, ng and baking • et or savoury (controlling the

	 Know that to be active and healthy, food and drink are needed to provide energy for the body Understand seasonality and which products can be grown locally and which can't. 	the nearest gram accurately. Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	hob, if cooking).	 Build on their food vocabulary acquired in key stage 1 by increasing their sensory vocabulary and knowledge around how foods feel, smell and taste Make healthy eating choices from an understanding of a balanced diet when designing their product. Know that to be active and healthy, food and drink are needed to provide energy for the body Understand seasonality and which products can be grown locally and which can't.
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Year 3 and 4 – The Romans 3Ps: Create transport suitable for a Roman soldier (chariots)

			Substantive K	nowledge - Sequence of I	-earning		
Year 3 and 4 Sticky Knowledge	Know what Roman transport looked like and why they were suitable for that time era.	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely Know how to join materials together to create a structure	Know how to create a mechanism to allow an object to move	Plan and design their own Roman chariot	Create original work using construction	Evaluate their own work showing understanding of how they have met the design criteria
		ui.	Disciplinary Knowle	edge to be linked Substantive	: Knowledge		
Research, Design and Evaluate Y3	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse	Identify a target audience for the product and ask some questions Use research to develop design criteria			Design with purpose by identifying users to base the design round Develop ideas and plans through discussion annotated drawings Think ahead about the order of their work describe the purpose of their products		Discuss how well the product meets the design criteria and how well it meets the needs of the user Evaluate their product and consider and explain how it could
Research, Design and Evaluate Y4	a range of exisitng products, discussiing their features, construction, purpose and intended users. Evaluate Existing Products: where products were designed and made when products were designed and made Whether products can be recycled or reused				investigate and analyse a functional survival produ products to help underst are made develop more than one do an initial design indicate the design featu that will appeal to intend explain how particular pa work	cts and draw/sketch rand how and why they esign or adaptation of ures of their products led users	y4 -evaluate against own design criteria and consider the strengths and weaknesses of their work in relation to its function.
LKS2 Specific Skill: Construction			Understand how a wide base of a 3D object makes it more stable Cut materials accurately and safely by selecting appropriate tools (include within the perimeter of the material) Measure and mark out to the nearest mm Select appropriate joining techniques		of the material) Measure and mark out to the Select appropriate joining to Choose suitable techniques t	d safely by selecting appropriate nearest mm echniques to construct products or to e of the transference of for hanisms, pulleys, pumps and to solve a problem	riate tools (include within the perimeter repair items. rces to choose appropriate mechanisms

		Choose suitable techniques			
		to construct products or			
		to repair items.			
LKS2 Specific			Build on scientific		
Skill: Mechanism			knowledge of the		
			transference of forces to		
			choose appropriate		
			mechanisms (such as		
			levers, winding		
			mechanisms, pulleys,		
			pumps and gears)		
			Knowledge of pully		
			systems to solve a problem		
			Attach and construct		
			mechanism systems.		
	<u> </u>	•	<u> </u>		

Year 5 and 6 Cycle 1World at War

3Ps: Make a war time scene/toy to entertain others (all) with a working air raid siren (Y6)

			Substantive Know	ledge - Sequence of Learni	ng		
Year 5 and 6 Sticky Knowledge	Understand existing toys/scenes and who they are suitable for	Know about which products work well and why	Know how to create a moving part	Understand how to create an electrical circuit and how computer programs work	Plan and design their own wartime toy/scene	Create original work using mechanisms and electonics	Evaluate their own work showing understanding of how they have met the design criteria
			Disciplinary Knowledge	to be linked Substantive Knowl			
Research, Design and Evaluate Y5 Research, Design and Evaluate Y6	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of particular individuals and groups.			collecting info sources to dev Produce a step sketch and mo and record ide diagrams with generate innov research Develop and pr after collectin different sour criteria Produce a deta of constraints resources and	del alternative ideas as using annotated increasing detail rative ideas, drawing on resent a range of ideas ag information from rees to develop design ailed step by step plan ecisions, taking account such as time, cost wants, preferences	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
UKS2 Specific Skill: mechanisms			Build frameworks using a range of material to support mechanisms . Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams			·	oort mechanisms . eys or gears create movement.

UKS2 Specific Skill: electronics	Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips) Know how more complex electric circuits and components can be used to	Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips) Know how more complex electric circuits and components can be used to create functional products Know how to program a computer to monitor changes in the environment and control their product
	create functional products Know how to program a computer to monitor changes in the environment and control their product	

Year 5 and 6 – Animals Versus Humans

3Ps: Make a face mask suitable for people to use for protection

				Substantive Kr	nowledge - Seque	ence of Learning		
Year 5 and 6 Sticky Knowledge	Investigate and analyse a range of existing products (face masks) and their uses,	Understand how face masks are constructed and which materails are most suitable	Understand and use a range of stitching techniques for sewing and joining materials	Understand what a seam allowance is and how to include them	Understand how to create visual and tactile effects in decorations	Design a face mask for protection	Make a face mask using a range of stitching techniques	Evaluate their own work showing understanding of how they have met the design criteria
				Disciplinary Knowle	dge to be linked Su	ubstantive Knowledg		
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out				 Come up with a range of ideas after information from different sources design criteria Produce a step by step plan sketch and model alternative ideas dideas using annotated diagrams with detail generate innovative ideas, drawing o 		Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product
Research, Design and Evaluate Y6	analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.	research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of particular individuals and groups.				collecting in to develop • Produce a commake design constraints identify the needs	d present a range of ideas after information from different sources design criteria detailed step by step plan in decisions, taking account of s such as time, resources and costeds, wants, preferences and values dividuals and groups	Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
UKS2 Specific Skill: Textiles			Stitch using a range of stitches including a blanket stitch Join fabrics by pinning and tacking pieces together Join textiles with a	Create objects that employ a seam allowance Join textiles with a combination of stitching techniques (such as back	Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for	 Stitch usin Create obj Join textile for seams Use the que 	ss by pinning and tacking pieces togeth ig a range of stitches including blanket ects that employ a seam allowance. es with a combination of stitching tech and running stitch to attach decoratio alities of materials to create suitable tion of textiles (such as a soft decora	nniques (such as back stitch n). visual and tactile effects in

		combination of sitching techniques (back stitch for seams and running stitch to	stitch for seams and running stitch to attach decoration)	comfort on a cushion)	
		attach decoration)			

Year 5 and 6 – The Marvellous Mayans

3Ps: Make packaging for a chocolate bar

			Substantive K	(nowledge - Sequence of L	-earning		
Year 5 and 6 Sticky Knowledge	Know about different types of chocolate bar packaging and what they look like	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know about the qualities of materials and appropriate tools to work with	Know how to measure and cut safely and join materials together to create a stable structure	Plan and design their own chocolate bar packaging	Create original work using construction	Evaluate and test their own work showing understanding of how they have met the design criteria
			Disciplinary Knowle	edge to be linked Substantive	: Knowledge		
Research, Design and Evaluate Y5 Research, Design and Evaluate Y6	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of			Come up with a range collecting informating sources to develop to the Produce a step by some sketch and model also record ideas using a sincreasing detail generate innovative research Develop and present collecting informating sources to develop to the Produce a detailed to make design decision.	on from different design criteria tep plan ternative ideas and annotated diagrams with ideas, drawing on t a range of ideas after on from different design criteria step by step plan ins, taking account of time, resources and s, preferences and	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product Y6 -Critically evaluate the qualit of the design, manufacture and fitness for purpose of their products as they design and mak Justify decisions about material and methods of construction
UKS2 Specific		particular individuals and groups.	Show an	Measure and mark out to	Show an understanding of the	ne qualities of materials to cl	noose appropriate tools to cut and shap
Skill: Construction			understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper)	the nearest cm Cut materials with precision and refine the finish with appropriate tools Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)	(such as the nature of fabri Measure and mark out to th Cut materials with precision	c may require sharper scisso e nearest cm and refine the finish with a joining techniques (such a	rs than would be used to cut paper)

Year 5 and 6 Cycle 2 World of Water 3Ps: Design a bridge suitable for a toy car to cross water

			Substantive Knowledge	- Sequence of Learning)		
Year 5 and 6 Sticky Knowledge	Know about different types of bridges and why they are effective	Know about which products work well and resrach the criteria of the person the product is aimed at.	Know how to measure and cut materials safely	Know how to join materials together to create a stable structure	Plan and design their own bridge	Create original work using construction	Evaluate and test their own work showing understanding of how they have met the design criteria
			Disciplinary Knowledge to be	linked Substantive Knowled	dge		
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria			collecting in sources to conference of the sources to conference of the source of the	h a range of ideas after formation from different levelop design criteria rep by step plan model alternative ideas and s using annotated diagrams with etail movative ideas, drawing on	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product
Research, Design and Evaluate Y6	exisiting products, discussing their features, consutruction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants, prefernces and values of particular individuals and groups.			collecting in sources to conference and make design constraints identify the	present a range of ideas after formation from different levelop design criteria etailed step by step plan decisions, taking account of such as time, resources and cost needs, wants, preferences and rticular individuals and groups	Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
UKS2 Specific Skill: Construction			Cut materials with precisions and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape) Show an understanding of material qualities to choose appropriate tools. Measure and mark out to the nearest centimeter	Glue wood to strengthening corners Demonstrate a range of joining techniques (such as gluing, hinges or combining materials) Use wood to practice drilling, screwing, gluing and nailing	Glue wood to Measure and Demonstrat combining m Use wood to make product Cut materia (such as san roughly cutt Show an uncappropriate	ing a hacksaw o strengthening corners d mark out to the nearest centimet e a range of joining techniques (sue aterials to strengthen). practise drilling, screwing, gluing ets Is with precision and refine the fin ding wood after cutting or a more ing out a shape). lerstanding of the qualities of mate tools to cut and shape (such as the per scissors than would be used to	ch as gluing, hinges or and nailing materials to ish with appropriate tools precise scissor cut after erials to choose another of fabric may

Year 5 / 6 – Crime and Punishment

3Ps: Create a jail (all) with a working alarm (Y6)

			Substantive Know	rledge - Sequence of Lear	rning		
Year 5 and 6 Sticky Knowledge	Understand existing products and how they work	Know about which products work well and why	Know how to create a moving part	Understand how to create an electrical circuit and how computer programs work	Plan and design their own jail	Create original work using mechanisms and electonics	Evaluate their own work showing understanding of how they have met the design criteria
			Disciplinary Knowledge	to be linked Substantive Kno	owledge		
Research, Design and Evaluate Y5 Research, Design and Evaluate Y6	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range of exisiting products, discussing their features, consutruction purpose and intended users.	Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of ideas after collecting information from sources to develop design criteria Identify the needs, wants,			Come up with a collecting inform sources to deve Produce a step I sketch and modinecord ideas using with increasing generate innovances arch Develop and preafter collecting different source criteria Produce a detail make design decof constraints sound cost identify the needs, we	el alternative ideas and ng annotated diagrams	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction
		prefernces and values of particular individuals and groups.			varies of particular i	narviadais and groups	
UKS2 Specific Skill: mechanisms			Build frameworks using a range of material to support mechanisms. Know how mechanical systems such as cams or pulleys or gears create movement. Convert rotary motion to linear using cams			· · ·	rt mechanisms . vs or gears create movement.

UKS2 Specific Skill: electronics	Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such as resistor, LED's, transistors and chips) Know how more complex electric circuits and components can be used to create functional products Know how to program a computer to monitor changes in the environment and control	Draw on their knowledge of year 6 computing and science work on electrical circuits to design and create circuits using electronic kits that employ a number of components (such a resistor, LED's, transistors and chips) Know how more complex electric circuits and components can be used to create functional products Know how to program a computer to monitor changes in the environment and control their product
	their product	

Year 5 and 6 – Ancient Greece **3Ps: Make Greek salad and flat breads as an affordable and healthy meal**

	Substantive Knowledge - Sequence of Learning										
Year 3 and 4 Sticky Knowledge	Know about budget friendly recipes that look appealing to people	Understand which foods work and who enjoys to eat them and why	Understand how to adapt a recipe to allow for rations within budgets	Understand how to prepare ingredients for a recipe, cutting and shaping them	Understand how to cook and bake food using different techniques	Plan and design their own recipe using affordable ingredients	Create greek salad and flatbreads	Evaluate their own work showing understanding of what they do and do not like.			
	Disciplinary Knowledge to be linked Substantive Knowledge										
Research, Design and Evaluate Y5	Learn about how key events and individuals in design and technology have helped shape the world. Investigate and analyse a range	the product and carry out research, using surveys, interviews, questionnaires and web-based resources Come up with a range of ideas after collecting information to develop design criteria Identify a target audience for the product and carry out research, using surveys, interviews, questionnaires and web-based resources Present research in graph, charts including using computer programs such as Excel Develop and present a range of				Come up with a recollecting inform different source criteria Produce a step be sketch and mode and record ideas diagrams with in generate innovation research	s to develop design y step plan el alternative ideas e using annotated creasing detail rive ideas, drawing	Consider the viewpoints of other when evaluating their work Evaluate the process of design and making the product			
Research, Design and Evaluate Y6	of exisiting products, discussing their features, consutruction purpose and intended users.					from different s design criteria • Produce a detaile • make design dec	cting information sources to develop ed step by step plan isions, taking raints such as time, ost ants, preferences	Y6 -Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Justify decisions about materials and methods of construction			
LKS2 Specific Skill: Construction			Measure accurately and calculate ratios of ingredients to scale up or down from a recipe Create and refine recipes, including ingredients, methods, cooking	Cut and shape ingredients using appropriate tools and equipments Understand the importance of correct storage and handling of ingredients (using knowledge	Demonstrate a range of baking and cooking techniques How to use a range of techniques such as baking Flatbreads - can be made in pan or in oven						

		times and temperateures. Work within a budget to create a meal	of micro- organisms) How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading		
			grating, mixing, spreading, kneading		