



# Design and Technology Key Concepts Year Group Mapping

	Autumn	Spring	Summer
EYFS Expressive Arts and Design		nd Technology through the strands Expressive Ai Through the year pupils will be taught: ructures, Textiles, Mechanics and Cooking and N	- '
Physical Development			
Year 1	Mechanisms	Textiles	Cooking and nutrition
	Moving vehicles	Animal puppets	Seaside smoothie
Year 2	Structure	Mechanisms	Cooking and nutrition
	Buildings	Moving picture book	Pizza wraps
Year 3	Cooking and nutrition	Mechanisms	Digital world
	Seasonal dishes	Moving monsters	Light up boxes
Year 4	Structure	Textiles	Cooking and nutrition
	Picture frames	Pouches (money containers)	Bread (designing a recipe)
Year 5	Food and nutrition	Electrical systems	Structure
	Biscuits (adapting recipe)	Steady hand game.	Building bridges
Year 6	Textiles	Cooking and nutrition	Mechanisms
	Baubles/Cushions	Burgers and sides.	Pop-up toys





## **Key Concepts in Design and Technology**

Mechanics Textiles Structures Electrical and Digital Cooking and Nutrition







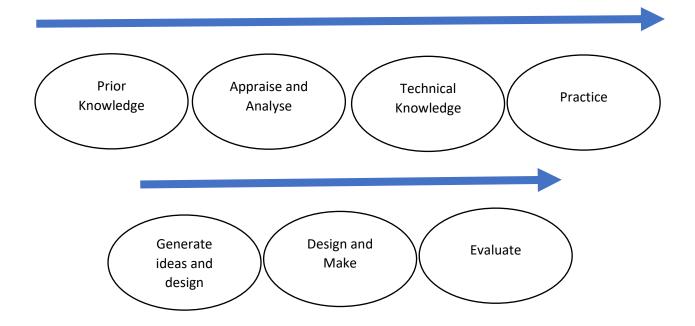




Pupils will become increasingly competent in designing, making and evaluating products. They will investigate how design has been used to solve problems and create products and structures in the real world, including the techniques used by designers to improve looks and functionality. They will have the opportunity to design their own products in response to design briefs, learn and experiment with a range of techniques before making and evaluating products. Each unit of work will be based on the following teaching sequence.







### The technical knowledge will be specific to the key concepts outlined below:

#### **Mechanics**

Pupils will gain an understanding of how different mechanisms work, evaluate products with different mechanisms and design and make working products to fit a design brief. They will gain the technical knowledge needed to make different mechanisms work effectively.

#### **Textiles**

Pupils will gain the technical knowledge needed to work with textiles such as stitching, sewing and threading. They will study textile designs and how to make products which are practical as well as stylish and then apply this learning to their own designs and products.

#### Structures

Pupils will learn the technical knowledge used by designers to make structures which are strong and stable. They will learn and apply strengthening techniques, explore the benefits of different shapes and materials and apply this to their own designs and products.

#### **Electric and digital**

Pupils will learn how electronics and digital technologies are used when designing and creating products. They will gain the technical knowledge needed to programme devises and to make use of electric circuits including switches to power and control a product.

### **Cooking and nutrition**

Pupils will learn where food comes from and how nutritional information can be used to plan.





## **Design and Technology Knowledge and Skills Sequencing**

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To explore	To use	To appraise	To appraise and	To analyse			To appraise
	different toys	magnets to	and analyse	analyse	moving toys			and analyse a
	that move and	move things.	mechanisms in	mechanisms in	and identify			range of
Mechanics	make them		existing	existing	how they			existing
	work by	To use split	products	products	work.			products –
	pressing parts	pins to make	(moving	(moving story				automata toys.
	or applying	body parts	vehicles).	books).	To identify			
STATE OF THE PERSON OF THE PER	force.	move.			how a moving			To gain an
<b>50</b> 3			To identify how	To identify how	toy works.			understanding
	To know that a		mechanisms	mechanisms				of how cams
	push or pull can		work in existing	work in existing	To produce a			and followers
	move an object		products e.g.	products e.g.	mechanical			work.
Appraise and	or stop it from		wheels/axels.	sliders/levers.	prototype –			
Analyse	moving.				moving part.			To use a range
			To be able to	To be able to				of materials,
	To look at books		make	make prototype	To design a			tools and
Technical	with moving		prototype	mechanisms	moving			techniques to
knowledge	parts and use		mechanisms.		monster with			create a
	the levers and			To design using	a mechanism.			prototype –
Practice	sliders		To design using	pictures and				cams and
	appropriately.		pictures and	labels.	To select			followers.
Generate			labels.		appropriate			
ideas and				To create a	materials to			To design a
design			To create a	product which	produce a			product that
			product which	includes sliders	mechanical			meets the
Design and			includes wheels	and levers.	product –			design brief –
Make			and axels.					automata toys.

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				To evaluate my	moving			
rsetvaluate			To evaluate my	product against	monster.			To use a range
			product against	function				of materials,
			function.		To evaluate			tools and
					my product			techniques to
					and identify			make a
					ways to			product.
					improve my			
					design.			To evaluate an
								end product
								against a
								design criteria
								and consider
								the views of
								others
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Nursery To know that	Reception To investigate	Year 1 To appraise	Year 2	Year 3	Year 4 To research	Year 5	Year 6 To appraise
	•	-		Year 2	Year 3		Year 5	
Textiles	To know that	To investigate	To appraise	Year 2	Year 3	To research	Year 5	To appraise
Textiles	To know that things feel different.	To investigate the properties	To appraise and analyse a	Year 2	Year 3	To research a design concepts or range of	Year 5	To appraise and analyse an
Textiles	To know that things feel different.  To explore	To investigate the properties of textiles.  To recreate a	To appraise and analyse a selection of puppets.	Year 2	Year 3	To research a design concepts or range of products	Year 5	To appraise and analyse an existing product commenting
Textiles	To know that things feel different.  To explore different textiles	To investigate the properties of textiles.  To recreate a pattern using	To appraise and analyse a selection of puppets.  To identify	Year 2	Year 3	To research a design concepts or range of products and	Year 5	To appraise and analyse an existing product commenting on design
Textiles	To know that things feel different.  To explore different textiles and talk about	To investigate the properties of textiles.  To recreate a pattern using thread and	To appraise and analyse a selection of puppets.  To identify techniques	Year 2	Year 3	To research a design concepts or range of products and appraise	Year 5	To appraise and analyse an existing product commenting
Textiles	To know that things feel different.  To explore different textiles and talk about how they feel to	To investigate the properties of textiles.  To recreate a pattern using thread and weaving	To appraise and analyse a selection of puppets.  To identify techniques used to create	Year 2	Year 3	To research a design concepts or range of products and	Year 5	To appraise and analyse an existing product commenting on design features.
	To know that things feel different.  To explore different textiles and talk about	To investigate the properties of textiles.  To recreate a pattern using thread and	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet	Year 2	Year 3	To research a design concepts or range of products and appraise them.	Year 5	To appraise and analyse an existing product commenting on design features.
Appraise and	To know that things feel different.  To explore different textiles and talk about how they feel to touch.	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple	Year 2	Year 3	To research a design concepts or range of products and appraise them.	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern
	To know that things feel different.  To explore different textiles and talk about how they feel to touch.  To sort different	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.  To cut and	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple stitches, gluing	Year 2	Year 3	To research a design concepts or range of products and appraise them.  To understand	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern pieces are used
Appraise and	To know that things feel different.  To explore different textiles and talk about how they feel to touch.	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.  To cut and join fabrics	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple	Year 2	Year 3	To research a design concepts or range of products and appraise them.  To understand how a cross	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern pieces are used to make an end
Appraise and Analyse	To know that things feel different.  To explore different textiles and talk about how they feel to touch.  To sort different	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.  To cut and join fabrics with simple	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple stitches, gluing etc).	Year 2	Year 3	To research a design concepts or range of products and appraise them.  To understand how a cross stitch	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern pieces are used
Appraise and Analyse  Technical	To know that things feel different.  To explore different textiles and talk about how they feel to touch.  To sort different	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.  To cut and join fabrics	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple stitches, gluing etc).  To practise a	Year 2	Year 3	To research a design concepts or range of products and appraise them.  To understand how a cross stitch design is	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern pieces are used to make an end product.
Appraise and Analyse	To know that things feel different.  To explore different textiles and talk about how they feel to touch.  To sort different	To investigate the properties of textiles.  To recreate a pattern using thread and weaving techniques.  To cut and join fabrics with simple	To appraise and analyse a selection of puppets.  To identify techniques used to create a puppet (simple stitches, gluing etc).	Year 2	Year 3	To research a design concepts or range of products and appraise them.  To understand how a cross stitch	Year 5	To appraise and analyse an existing product commenting on design features.  To understand how pattern pieces are used to make an end

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and Nurs	Practice
, a Mil	Generate ideas and design
	Design and Make
	Evaluate

To use my fine	used to make a	To practise	pieces to
motor skills to	puppet to	skills	create a
thread	create a	identified	prototype.
different	prototype	to develop	
items.	(sewing, gluing	a design of	To design a
	etc)	my own.	product using
			pattern pieces
	To design a	To be able	to meet a
	product using	to generate	design brief.
	pictures and	and	
	words.	develop	To use pattern
		ideas using	pieces,
	To use a range	exploding	appropriate
	of tools and	diagrams to	materials and
	materials to	design an	tools to create
	create a	end	an end
	finished	produc.t.	product.
	product.		
		To be able	To evaluate a
	To evaluate an	to think	product on
	end product in	ahead	appearance
	terms of	about the	and function
	aesthetics –	order of my	against an
	puppet.	work,	original design
		select tools	criteria and
		needed for	justify
		a given task	decisions made
		and give	in the design
		reasons for	and making
		my choices.	process.
		To be able	
		to evaluate	



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eri						a finished product against a design brief		
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To take apart	To take apart		To appraise and		To research	To analyse	
	and talk about	and talk		analyse how a		picture	structural	
Structures	(with support)	about how		structure is		frames and	designs in	
0.0.000.00	how cardboard	cardboard		made.		consider	terms of	
R R	boxes are used	boxes used in				how these	functionality,	
	in everyday life.	everyday life		To identify how		structures	aesthetics	
т т		to see how		a net is created		work.	and	
	To use various	they are made		using shapes.			materials.	
	construction	and put them				To identify		
	materials,	back together		To practise		the	То	
	stacking	again.		making stable		structure	understand	
Appraise and	vertically and			structures using		for a	different	
Analyse	horizontally,	To use string,		nets to make a		picture	methods of	
	balancing,	sellotape,		building		frame and	strengthenin	
	making	glue, masking		(houses).		analyse the	g bridges.	
Technical	enclosures and	tape and PVA				support		
knowledge	creating spaces.	glue to join		To design a		techniques	To practise a	
		materials.		structure		to make	range of	
Practice	To use a glue			(building) using		the	structural	
	spatula.	To choose		pictures and		structure	designs to	
Generate		materials		words based on		strong.	create	
ideas and	To use a	which are		a design criteria.			bridges.	
design	masking tape to	suitable for				To explore		
	join.	my design and		To make and		suitable	To generate	
				join together a		materials	ideas and	

esign and	To use simple	explain my	stable structure	to create a	design a
Make	mark making	reasoning.	(building) using	strong	structure
	techniques to		nets.	structure	(bridge)
Evaluate	represent/	To use small		(frame).	demonstrati
	communicate	school scissors	To evaluate my		ng my design
	my ideas.	safely and	structure in	То	from
		effectively.	terms of design.	generate	different
	To develop my			ideas and	perspectives.
	own ideas	To talk about		design a	
	through	what I intend		structure	To use a
	experimentatio	to make and		including	range of
	n with a range	represent my		strengtheni	appropriate
	of materials.	ideas using		ng	tools
		pictures.		techniques	competently
	To safely use			(frame).	and to join
	tools and	To know how			and combine
	materials	to use objects		To use	a range of
		and join and		appropriat	materials
		manipulate		e tools and	competently.
		them to make		constructio	
		a prop to		n materials	To evaluate a
		support play.		to make a	product on
				structure	appearance
		I know how to		(frame).	and function
		use and talk			against an
		about		To evaluate	original
		different		my	design
		materials to		structure	criteria and
		achieve a		and	justify
		desired effect		suggest	decisions
		or outcome.		ways for	made in the
					ala ataua aua al

improveme

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design and



eri							making process.	
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					<u>Digital</u>		<u>Electrical</u>	
					_To appraise		To appraise	
					and analyse a		and analyse	
Electrical and					range of light		a range of	
Digital					up boxes and		toys and	
(KS2)					comment on		identify if the	
					their features.		form follows	
							its function.	
9					To learn about			
					electrical		To create a	
14-					items and how		range of	
					they work.		electrical	
							circuits and	
Appraise and					To learn how a		identify their	
Analyse					switch		component.	
					controls the			
					flow of an		To practise	
Technical					electric		using a range	
knowledge					current.		of tools and	
							techniques	
Practice					To design a		to create	
					light up box		part of a	
Generate					based on a		product.	
ideas and					user profile.			
design							To generate	
					To make a		ideas and	
Design and					light up box		design a	
Make							product that	

based on a user profile.  To evaluate my light up box and identify any improvements that could be made.  To evaluate techniques to make a product.  To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.		Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
weetvaluate    To evaluate   To use a range of tools and identify any improvements that could be made.   To evaluate their ideas and products against their own design criteria and consider the								improve	
weer profile.  To evaluate my light up box and identify any improvements that could be made.  To evaluate To use a range of tools and techniques to make a product.  To evaluate their ideas and products								own design criteria and consider the	
To evaluate To use a range of tools and identify any improvements to make a product.  To evaluate  my light up techniques to make a product.								their ideas and products	
To evaluate  To use a range of tools and identify any improvements  user profile.  To use a range of tools and techniques to make a								product.	
Nurse design brief.  To evaluate my light up range of box and tools and						improvements		to make a	
user profile. design brief.  To evaluate  To use a									
	Nursetvaluate								

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		To name a	To sort	To identify	To identify		To appraise	To appraise	To appraise
urse	M	range of	healthy and	where our fruit	ingredients	To identify	and analyse	and analyse	and analyse a
		different fruit	unhealthy	and vegetables	from different	seasonal	a range of	a range of	range of
		and vegetables.	foods and	come from to	food groups to	ingredients	bread and	biscuits.	burgers and
	Cooking and		design a	make a healthy	create a healthy	used in an	where it		sides.
	nutrition	To sort healthy	healthy plate.	product	and balanced	existing	comes		
		and unhealthy		(smoothie).	.product (pizza	product.	from.		To identify how
		foods. To taste	To create a		wrap)				the different
		a variety of	fruit kebab.	To identify		To identify	To identify		cooking
		foods from		different	To identify	techniques	techniques		techniques can
		different	To taste a	techniques	different	used and to	used and to		be used to
		cultures.	variety of	used to	techniques to	write a	write a		create a range
	Appraise and		foods from	prepare and	prepare a	method to	method to		of healthy
	Analyse		different	create a	healthy and	create an	create an		burgers and
			cultures and	healthy	balanced	existing	existing		sides.
			talk about the	product	product	product.	product.		
	Technical		flavours.	(mushing,	(peeling,	To practice a			To practise a
	knowledge			chopping,	chopping,	To practise a range of	To practise		range of
			To understand	blending).	grating,	different	a range of		different
	Practice		the need for		spreading,	techniques to	different		cooking
			variety in food	To practise a	cooking).	prepare and	techniques		techniques to
	Generate		and maintain	range of		create a	to prepare		decide which is
	ideas and		a healthy	different	To practise a	seasonal	and create		the most
	design		lifestyle.	techniques to	range of	product	bread		appropriate
				prepare and	techniques to	(grating,	(slicing,		method.
	Design and		To notice and	create a	prepare a	chopping,	rolling,		
	Make		talk about	healthy	balanced	slicing, rolling,	folding,		To work
			changes when	product	product	folding,	pinching)		collaboratively
	Evaluate		ingredients	(mushing,	(peeling,	pinching, egg			to design a
			are combined	chopping,	chopping,	washing).	To create		burger and side
			or exposed to	blending).	grating,	wasiiiigj.	their own		dish.
			hot and cold.		spreading,		bread		
L					cooking).		design.		



	To design a product using pictures and words.  To use a range of technical knowledge and skills to create a finished product (mushing, chopping, blending).  To evaluate their healthy product in terms of design and the taste.	To design a healthy, balanced product using simple drawings and labels (food groups).  To use a range of technical knowledge to create a finished product (peeling, chopping, grating, spreadin.g, cooking)  To evaluate their product against their original design and a design criteria.	To design a seasonal dish using exploded diagrams.  To use a wider range of technical skills and tools to create a finished product.  To evaluate their finished product against their original design and a design criteria.	To use a wider range of technical skills and tools to create a finished product.  To evaluate their finished product against their original design and a design criteria.	To use a of tools and cooking methods to prepare and make a burger and side dish.  To evaluate their finished product against their original design, a design criteria and consider the views of others.
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