**Design Technology** 

**Colton Primary School** 

**Progression map** 



## **Curriculum intent**

At Colton Primary School we aim for Design and Technology to equip children with usable skills for future life. Children will design, make and evaluate products creatively and technically with a purpose using a wide variety of tools and materials. Through the study of Design and Technology children will draw upon knowledge from subjects, such as mathematics, science, computing and art. By exploring the man-made world and discussing how we live and work within it children will learn how to become innovative, resourceful and enterprising risk takers who can tackle real life problems. Children will understand and apply principles of nutrition and learn how to cook, preparing them for adult life and educating them on healthy eating. Whilst partaking in Design and Technology children will learn about health and safety and protective measures that need to be followed.

## Colton Primary Design Technology Taught

Year group	Autumn Term	Spring Term	Summer Term
1	Structures/ Storm resistant dens	Traditional food from Britain/ Balanced plate	Wind chime/ bird feeder
2	Structures and Tudor architecture	Kites	Medieval weapons
3	Shop design	Pulley systems	Traditionally Yorkshire food
4	Chariots/ Wheel and axels	French and British traditional dishes	Medieval houses construction
5	Viking diet – typical meal	Long ships	Rucksacks
6	Inventions	Clothes	Exploring traditional dishes – focusing on nutrition and seasonality



## Progression of knowledge and skills in Design and Technology



Strand	EYFS	Y1	Y2	Y3	¥4	Y5	Y6
	Share, their	Use their	Use their	Identify the design	Identify the	Use research to	Use research to
	creations,	knowledge of	knowledge of	features of their	design features of	inform and	inform and
	explaining the	existing products	existing products	products that will	their products	develop detailed	develop detailed
	process they	and their own	and their own	appeal to intended	that will appeal to	design criteria to	design criteria to
	have used.	experience to help	experience to help	customers;	intended	inform the design	inform the
		generate their	generate their		customers;	of innovative,	design of
		ideas;	ideas;	use their		functional and	innovative,
				knowledge of a	use their	appealing	functional and
		design products	design products	broad range of	knowledge of a	products that are	appealing
		that have a	that have a	existing products to	broad range of	fit for purpose	products that are
		purpose and are	purpose and are	help generate their	existing products	and aimed at a	fit for purpose
		aimed at an	aimed at an	ideas;	to help generate	target market;	and aimed at a
		intended user;	intended user;		their ideas;		target market;
				design innovative		use their	
		explain how their	explain how their	and appealing	design innovative	knowledge of a	use their
		products will look	products will look	products that have	and appealing	broad range of	knowledge of a
		and work through	and work through	a clear purpose and	products that	existing products	broad range of
L D		talking and simple	talking and simple	are aimed at a	have a clear	to help generate	existing products
Design		annotated	annotated	specific user;	purpose and are	their ideas;	to help generate
De		drawings;	drawings;		aimed at a		their ideas;
				explain how	specific user;	design products	
		design models	design models	particular parts of		that have a clear	design products
		using simple	using simple	their products	explain how	purpose and	that have a clear
		computing	computing	work;	particular parts of	indicate the	purpose and
		software;	software;		their products	design features of	indicate the
				use annotated	work;	their products	design features
		plan and test ideas	plan and test ideas	sketches and cross-		that will appeal to	of their products
		using templates	using templates	sectional drawings	use annotated	the intended	that will appeal
		and mock-ups;	and mock-ups;	to develop and	sketches and	user;	

		communicate their	cross-sectional		to the intended
understand and	understand and	ideas;	drawings to	explain how	user;
follow simple	follow simple		develop and	particular parts of	
design criteria;	design criteria;	when designing,	communicate	their products	explain how
		explore different	their ideas;	work;	particular parts
work in a range of	work in a range of	initial ideas before			of their products
relevant contexts,	relevant contexts,	coming up with a	when designing,	use annotated	work;
for example	for example	final design;	explore different	sketches, cross-	
imaginary, story-	imaginary, story-		initial ideas	sectional	use annotated
based, home,	based, home,	when planning,	before coming up	drawings and	sketches, cross-
school and the	school and the	start to explain	with a final	exploded	sectional
wider	wider	their choice of	design;	diagrams	drawings and
environment.	environment.	materials and		(possibly	exploded
		components	when planning,	including	diagrams
		including function	start to explain	computer-aided	(possibly
		and aesthetics;	their choice of	design) to	including
			materials and	develop and	computer-aided
		test ideas out	components	communicate	design) to
		through using	including function	their ideas;	develop and
		prototypes;	and aesthetics;		communicate
				generate a range	their ideas;
		use computer-	test ideas out	of design ideas	
		aided design to	through using	and clearly	generate a range
		develop and	prototypes;	communicate	of design ideas
		communicate their		final designs;	and clearly
		ideas;	use computer-		communicate
			aided design to	consider the	final designs;
		develop and follow	develop and	availability and	
		simple design	communicate	costings of	consider the
		criteria;	their ideas;	resources when	availability and
		work in a broader		planning out	costings of
		range of relevant	develop and	designs;	resources when
		contexts, for	follow simple		planning out
		example	design criteria;	work in a broad	designs;
		entertainment, the	work in a broader	range of relevant	
		home, school,	range of relevant	contexts, for	work in a broad
		leisure, food	contexts, for	example	range of relevant
		industry and the	example	conservation, the	contexts, for
			entertainment,	home, school,	example

Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and	With support, follow a simple plan or recipe; begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer;	With support, follow a simple plan or recipe; begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer;	wider environment. With growing confidence, carefully select from a range of tools and equipment, explaining their choices; select from a range of materials and	the home, school, leisure, food industry and the wider environment. With growing confidence, carefully select from a range of tools and equipment, explaining their choices; select from a range of materials	leisure, culture, enterprise, industry and the wider environment. Independently plan by suggesting what to do next; with growing confidence, select from a wide range of tools and equipment, explaining their	conservation, the home, school, leisure, culture, enterprise, industry and the wider environment. Independently plan by suggesting what to do next; with growing confidence, select from a wide range of tools and equipment.	
tools and techniques, experimenting with colour, design, texture, form and function.	select from a range of materials, textiles and components according to their characteristics;	select from a range of materials, textiles and components according to their characteristics;	components according to their functional properties and aesthetic qualities; place the main stages of making in a systematic order;	and components according to their functional properties and aesthetic qualities; place the main stages of making in a systematic order;	explaining their choices; select from a range of materials and components according to their functional properties and aesthetic qualities; create step-by- step plans as a guide to making.	equipment, explaining their choices; select from a range of materials and components according to their functional properties and aesthetic qualities; create step-by- step plans as a guide to making.	

Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; use a range of materials and components, including textiles and food ingredients; with help, measure and mark out;	Learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; use a range of materials and components, including textiles and food ingredients; with help, measure and mark out;	Learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical	Learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical	Learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; independently take exact measurements and mark out, to within 1 millimetre; use a full range of materials and	Learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; independently take exact measurements and mark out, to within 1 millimetre; use a full range	
		out; cut, shape and score materials with some accuracy; assemble, join and combine materials, components or ingredients; demonstrate how to cut, shape and	electrical components; with growing independence, measure and mark out to the nearest cm and millimetre; cut, shape and score materials with some degree of accuracy;		materials and components, including construction materials and kits, textiles, and mechanical components; cut a range of materials with precision and accuracy; shape and score materials with precision and accuracy; assemble, join and combine materials and	use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; cut a range of materials with precision and accuracy; shape and score materials with precision and accuracy; assemble, join and combine	

Practical skills and techniques

		use a basic running stich; cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.	use a basic running stich; cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.	demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; join textiles with an appropriate sewing technique; begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.	demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; join textiles with an appropriate sewing technique; begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie- dye, fabric paints and digital graphics.	components with accuracy; demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.	materials and components with accuracy; demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.
Evaluate	Share, their creations, explaining the process they have used.	Explore and evaluate existing products mainly through discussions,	Explore and evaluate existing products mainly through discussions,	Explore and evaluate existing products, explaining the purpose of the	Explore and evaluate existing products, explaining the purpose of the	Complete detailed competitor analysis of other	Complete detailed competitor analysis of other

comparisons and	comparisons and	product and	product and	products on the	products on the
simple written	simple written	whether it is	whether it is	market;	market;
evaluations;	evaluations;	designed well to	designed well to		
		meet the intended	meet the	critically evaluate	critically evaluate
explain positives	explain positives	purpose;	intended	the quality of	the quality of
and things to	and things to	<b>/</b>	purpose;	design,	design,
improve for	improve for	explore what	<b>/</b>	manufacture and	manufacture and
existing products;	existing products;	materials/ingredie	explore what	fitness for	fitness for
existing products,	existing products,	nts products are	materials/ingredi	purpose of	purpose of
		made from and	ents products are	products as they	products as they
explore what	explore what	suggest reasons for	made from and	design and make;	design and make;
materials products	materials products	this;	suggest reasons	uesign and make,	uesign and make,
are made from;	are made from;	-,	for this;		
		consider their	,	evaluate their	evaluate their
talk about their	talk about their	design criteria as	consider their	ideas and	ideas and
design ideas and	design ideas and	they make progress	design criteria as	products against	products against
what they are	what they are	and are willing to	they make	the original	the original
making;	making;	alter their plans,	progress and are	design criteria,	design criteria,
		sometimes	willing to alter	making changes	making changes
as they work, start	as they work, start	considering the	their plans,	as needed.	as needed.
to identify	to identify	views of others if	sometimes		
strengths and	strengths and	this helps them to	considering the		
possible changes	possible changes	improve their	views of others if		
they might make to	they might make to	product;	this helps them to		
refine their existing	refine their existing		improve their		
design;	design;	evaluate their	product;		
		product against			
evaluate their	evaluate their	their original	evaluate their		
products and ideas	products and ideas	design criteria;	product against		
against their simple	against their simple	evaluate the key	their original		
design criteria;	design criteria;	events, including	design criteria;		
,	- 0,	technological	evaluate the key		
start to understand	start to understand	developments, and	events, including		
that the iterative	that the iterative	designs of	technological		
		individuals in	developments,		
process sometimes	process sometimes	design and	and designs of		
involves repeating	involves repeating	technology that	individuals in		
different stages of	different stages of	have helped shape	design and		
the process.	the process.	the world.	technology that		

Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and	Build simple structures, exploring how they can be made stronger, stiffer and more stable; talk about and start to understand the simple working characteristics of	Build simple structures, exploring how they can be made stronger, stiffer and more stable; talk about and start to understand the simple working characteristics of	Understand that materials have both functional properties and aesthetic qualities; apply their understanding of how to strengthen, stiffen and reinforce more	have helped shape the world. Understand that materials have both functional properties and aesthetic qualities; apply their understanding of how to strengthen,	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of
techniques, experimenting with colour, design, texture, form and function.	materials and components; explore and create products using mechanisms, such as levers, sliders and wheels.	materials and components; explore and create products using mechanisms, such as levers, sliders and wheels.	complex structures in order to create more useful characteristics of products; understand and demonstrate how mechanical and electrical systems have an input and output process; make and represent simple electrical circuits, such as a series and parallel, and components to create functional products;	stiffen and reinforce more complex structures in order to create more useful characteristics of products; understand and demonstrate how mechanical and electrical systems have an input and output process; make and represent simple electrical circuits, such as a series and parallel, and components to	products; understand and demonstrate that mechanical and electrical systems have an input, process and output; explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; apply their understanding of computing to program, monitor	products; understand and demonstrate that mechanical and electrical systems have an input, process and output; explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; apply their understanding of computing to program,

			explain how mechanical systems such as levers and linkages create movement; use mechanical systems in their products.	create functional products; explain how mechanical systems such as levers and linkages create movement; use mechanical systems in their products.	and control a product.	monitor and control a product.
Cooking and Nutrition	Explain where in the world different foods originate from; understand that all food comes from plants or animals; understand that food has to be farmed, grown elsewhere (e.g. home) or caught; name and sort foods into the five groups in the Eatwell Guide; understand that everyone should eat at least five portions of fruit	Explain where in the world different foods originate from; understand that all food comes from plants or animals; understand that food has to be farmed, grown elsewhere (e.g. home) or caught; name and sort foods into the five groups in the Eatwell Guide; understand that everyone should eat at least five portions of fruit	Start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; with support, use a heat source to cook ingredients showing awareness of the need to control the	Start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; with support, use a heat source to cook ingredients showing awareness of the need to control	Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;	Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;

and vegetables	and vegetables	temperature of the	the temperature	understand that	understand that	
every day and start	every day and start	hob and/or oven;	of the hob and/or	food is processed	food is processed	
to explain why;	to explain why;		oven;	into ingredients	into ingredients	
to explain why,	to explain wity,		oven,	that can be eaten	that can be	
use what they	use what they	use a range of	c	or used in	eaten or used in	
know about the	know about the	techniques such as	use a range of			
Eatwell Guide to	Eatwell Guide to	mashing, whisking,	techniques such	cooking;	cooking;	
		crushing, grating,	as mashing,			
	design and prepare	cutting, kneading	whisking,	demonstrate how	demonstrate	
dishes.	dishes.	and baking;	crushing, grating,	to prepare and	how to prepare	
			cutting, kneading	cook a variety of	and cook a	
		explain that a	and baking;	predominantly	variety of	
		healthy diet is		savoury dishes	predominantly	
		made up of a	explain that a	safely and	savoury dishes	
		variety and balance	healthy diet is	hygienically	safely and	
		of different food	made up of a	including, where	hygienically	
		and drink, as	variety and	appropriate, the	including, where	
		represented in the	balance of	use of a heat	appropriate, the	
		Eatwell Guide and	different food	source;	use of a heat	
		be able to apply	and drink, as		source;	
		these principles	represented in	demonstrate how		
		when planning and	the Eatwell Guide	to use a range of	demonstrate	
		cooking dishes;	and be able to	cooking	how to use a	
			apply these	techniques, such	range of cooking	
		understand that to	principles when	as griddling,	techniques, such	
		be active and	planning and	grilling, frying and	as griddling,	
		healthy, nutritious	cooking dishes;	boiling;	grilling, frying	
		food and drink are			and boiling;	
		needed to provide	understand that	explain that foods		
		energy for the	to be active and	contain different	explain that	
		body;	healthy,	substances, such	foods contain	
		- 17	nutritious food	as protein, that	different	
		prepare ingredients		are needed for	substances, such	
		using appropriate	needed to	health and be	as protein, that	
		cooking utensils;	provide energy	able to apply	are needed for	
		COOKING ULENSIIS,	for the body;	these principles	health and be	
				when planning	able to apply	
		measure and weigh	proparo	and preparing	these principles	
		ingredients to the	prepare ingredients using	dishes;	when planning	
			ingreaterits using	,		

nearest gram and millilitre; start to independently follow a recipe;	appropriate cooking utensils; measure and weigh ingredients	adapt and refine recipes by adding or substituting	and preparing dishes; adapt and refine
start to independently	measure and	recipes by adding or substituting	
independently		or substituting	adapt and refine
independently		U U	adapt and refine
	weigh ingredients		
follow a recipe;		one or more	recipes by adding
	to the nearest	ingredients to	or substituting
	gram and	change the	one or more
start to understand	millilitre;	appearance,	ingredients to
seasonality.		taste, texture and	change the
,	start to	aroma;	appearance,
			taste, texture
		alter methods,	and aroma;
	, <i>'</i>	cooking times	
	start to	and/or	alter methods,
		temperatures;	cooking times
			and/or
	seasonancy.	measure	temperatures;
		•	measure
			accurately and
			calculate ratios
			of ingredients to
		/	scale up or down
		independently	from a recipe;
			nom a recipe,
		ionow a recipe.	in den en de athu
			independently
			follow a recipe.
		start to understand millilitre; seasonality.	start to understand seasonality.millilitre;appearance, taste, texture and aroma;start to independently follow a recipe;alter methods, cooking times and/or temperatures;

DT- Key Vocabulary	
Key Stage	Vocabulary
Food and Nutrition	Cut, peel, grate, ingredients, hygiene, measure, weigh, scales, cook, healthy, boil, slice, wash, fry, grams, ounce, recipe, assemble, temperature, bake, healthy, diet, whisk, knife, fork, spoon, mix, fold, pour, tray, simmer, spatula, flavour, flour, butter, sugar, eggs, milk, stir
Textiles and Materials	Cut, sew, needle, material, fold, finish, button, thread, cotton, scissors, shape, fabric, tear, glue, template, stitch, colour, decorate, print, dyeing, sequin, seam, textiles, pin
Electronics	Battery, fault, diagnose, circuit, series, electronics, components, bulbs, buzzers, motors, switches, circuits
<u>Mechanisms</u>	Wheel, hinge, screw, levers, sliders, wheels, axles, gears, pulleys, cams, construct, stronger, stiffer, stable, purpose, function, aesthetics, design criteria, model, evaluate, tools, techniques, materials, components, cut, assemble, join, combine