



## Knowledge Organisers for the priority subject for each concept to be issued 2-3 weeks before the learning block is taught.

Metacognition: Metacognition can take many forms; it includes knowledge about when and how to use particular strategies for learning or problem-solving. *These will vary depending on the needs of each class.* 

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. This knowledge and skills organiser for design and technology demonstrates the progression through the year groups. It includes regular opportunities to revisit prior learning and build upon this.

Design and Technolog	Term		Term		Term	
y EYFS	20 FO Months		40 – 60 Months		Early Learning Coal (ELC)	
ETFS	30 – 50 Months		40 - 60 MONTINS		Early Learning Goal (ELG)	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Physical Development         Health and Self-care         Understand that equipment and tools have to be used safely.         Understanding the World		Physical Development Health and Self-Care Show understanding tackling new challeng manage some risks.	of the need for safety when ges and consider and	Expressive Arts and Design Being Imaginative Use what they have materials.	e learnt about media and





	Technology	Show understanding of how to transport and	
	<ul> <li>Show an interest in technological toys with knobs or pulleys, or real objects.</li> </ul>	store equipment safely.	
		Expressive Arts and Design	
	Expressive Arts and Design	Exploring and Using Media and Materials	
	Being Imaginative	<ul> <li>Understand that different media can be combined</li> </ul>	
	<ul> <li>Develop preferences for forms of expression.</li> </ul>	to create new effects.	
		<ul> <li>Select tools and techniques needed to shape,</li> </ul>	
		assemble and join materials they are using.	
Skill	Physical Development	Physical Development	Physical Development
Progressio	Moving and Handling	Moving and Handling	Moving and Handling
n	<ul> <li>Use one-handed tools and equipment, e.g.</li> </ul>	<ul> <li>Use simple tools to effect changes to materials.</li> </ul>	<ul> <li>To handle equipment and tools effectively,</li> </ul>
	makes snips in paper with child scissors.	<ul> <li>Handle tools, objects, construction and malleable</li> </ul>	including pencils for writing.
		materials safely and with increasing control.	
	Understanding the World		Expressive Arts and Design
	<u>Technology</u>	Physical Development	Exploring and Using Media and Materials
	<ul> <li>Show skill in making toys work by pressing</li> </ul>	Health and Self-Care	<ul> <li>To safely use and explore a variety of</li> </ul>
	parts or lifting flaps to achieve effects, such	<ul> <li>Practise some appropriate safety measures</li> </ul>	materials, tools and techniques, experimenting
	as sound, movements or new images.	without direct supervision.	with colour, design, texture, form and
			function.
	Expressive Arts and Design	Expressive Arts and Design	
	Exploring and Using Media and Materials	Exploring and Using Media and Materials	Expressive Arts and Design
	<ul> <li>Enjoy joining in with dancing and ring games.</li> </ul>	<ul> <li>Explore what happens when they mix colours.</li> </ul>	Being Imaginative
	<ul> <li>Begin to move rhythmically.</li> </ul>	<ul> <li>Experiment to create different textures.</li> </ul>	<ul> <li>Use what they have learnt about media and</li> </ul>
	<ul> <li>Imitate movement in response to music.</li> </ul>	<ul> <li>Manipulate materials to achieve a planned effect.</li> </ul>	materials in original ways, thinking about uses
	<ul> <li>Tap out simple repeated rhythms.</li> </ul>	<ul> <li>Construct with a purpose in mind, using a variety of resources.</li> </ul>	and purposes. <ul> <li>Represent their own ideas, thoughts and</li> </ul>
	Expressive Arts and Design	<ul> <li>Use simple tools and techniques competently and</li> </ul>	feelings through design and technology, art,
	Being Imaginative	appropriately.	music, dance, role play and stories.
	<ul> <li>Use movement to express feelings.</li> </ul>	<ul> <li>Select appropriate resources and adapt work</li> </ul>	
	<ul> <li>Create movement in response to music.</li> </ul>	where necessary.	
	<ul> <li>Capture experiences and responses with a</li> </ul>		
	range of media, such as music, dance and	Expressive Arts and Design	
	paint and other materials or words.	Being Imaginative	





			and objects.	entations of events, people lours to use for a purpose.		1
Meta Cognition						
Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge	Technical knowledge: Structures (linked to the Great Fire of London – Tudor Houses) Revisit learning from EYFS Summer term Talk about the simple working characteristics of materials. Explain how freestanding structures can be made stronger, stiffer and more stable.		Technical knowledge:         Structures/Mechanisms         (linked to Kings, Queens         and Castles – Castles and         making a working         drawbridge)         Revisit learning from Year 1         Autumn 1         • Explain how         freestanding         structures can be         made stronger,         stiffer and more         stable.         • Know that a 3D         textiles product can         be assembled from         two identical fabric         shapes.         • Talk about the         movement of         simple         mechanisms: lever         and pulley)		Technical knowledge:         Mechanisms (linked to         Trains/Transport through         time – wheels and axles)         Revisit learning from Year         1 Spring 1         • State what products they are designing and making.         • Talk about their design ideas and what they are making.         • Talk about the movement of simple mechanisms: wheels and axles.	<ul> <li>Make: Cooking and Nutrition (linked to Seaside: a healthy picnic)</li> <li>Revisit learning from EYFS Summer term</li> <li>Say whether the products are for themselves or other users.</li> <li>Explain what products are, who products are for and what products are for.</li> <li>Begin to recognise that all food comes from plants or animals.</li> <li>Begin to recognise that food has to be farmed, grown elsewhere or caught.</li> </ul>





		State what products they are designing and making.		<ul> <li>Know that everyone should eat at least five portions of fruit and vegetables every day.</li> <li>Begin to know how to use techniques such as cutting, peeling and grating.</li> </ul>
Skill	Technical knowledge:	Technical knowledge:	Technical knowledge:	Make: Cooking and
Progressio	Structures (linked to the	Structures/Mechanisms	Mechanisms (linked to	Nutrition (linked to
n	Great Fire of London –	(linked to Kings, Queens and Castles – Castles and	Trains/Transport through	Seaside: a healthy picnic)
	Tudor Houses)		time – wheels and axles)	Revisit learning from EYFS
	Revisit learning from EYFS Summer term	making a working drawbridge)	Revisit learning from Year 1 Spring 1	Summer term ■ Generate ideas
	Summer term Select from a	Revisit learning from Year 1	Plan by	<ul> <li>Generate liteas</li> <li>by drawing on</li> </ul>
	range of tools	Autumn 1	suggesting what	their own
	and equipment.	■ Incorporate the	to do next.	experiences.
	<ul> <li>Use materials</li> </ul>	movement of	<ul> <li>Follow</li> </ul>	<ul> <li>Follow</li> </ul>
	and components	simple	procedures for	procedures for
	to make a	mechanisms: lever	safety.	health and
	product.	and pulley) into	<ul> <li>Use materials</li> </ul>	safety.
	<ul> <li>Begin to</li> </ul>	their product.	and components	<ul> <li>Begin to name</li> </ul>
	assemble,	Generate ideas by	to make a	and sort food
	joining and	drawing on their	product.	into the five
	combine	own experiences.	<ul> <li>Assemble, join</li> </ul>	groups in the
	materials and	<ul> <li>Plan by suggesting</li> </ul>	and combine	eat-well plate.
	components.	what to do next.	materials and	<ul> <li>Begin to use</li> </ul>
		<ul> <li>Begin to use</li> </ul>	components.	techniques such
		procedures for	<ul> <li>Incorporate the</li> </ul>	as cutting,
		safety.	movement of	peeling and
			simple	grating.





Meta Cognition					mechanisms into their product: wheels and axles.	
Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge		Make: Cooking and         Nutrition (linked to         Science – Nutrition for         humans/Geography –         The Galapagos Islands)         Revisit learning from         Year 1 Summer 2         • Know that all         food comes         from plants or         animals.         • Know that food         has to be         farmed, grown         elsewhere or         caught.         • Know that         everyone should         eat at least five         portions of fruit         and vegetables         every day,         suggesting         different fruits         and vegetables.	<ul> <li>Make: Textiles (linked to Queen Victoria - crowns)</li> <li>Revisit learning from EYFS Summer term</li> <li>Describe what their products are for.</li> <li>Use knowledge of existing products to help come up with ideas.</li> <li>Know that a 3D textiles product can be assembled from two identical fabric shapes.</li> <li>Explain who products are for.</li> <li>Suggest what materials products are made from.</li> </ul>		Technical knowledge:         Mechanisms (linked to         the Wright Brothers         inventions)         Revisit learning from Year         1 Summer 1         • Say how their         products will         work.         • Explain safety         procedures to         others.         • Explain how         products work.         • Suggest what         materials         products are         made from and         suggest why         materials have         been chosen.         • Talk about the         movement of         simple         mechanisms.	





	<ul> <li>Know how to prepare simple dishes safely and hygienically without using a heat source.</li> <li>Know how to use techniques such as cutting, peeling and grating.</li> </ul>		<ul> <li>Know the correct technical vocabulary for the products they are undertaking.</li> </ul>
Skill	Make: Cooking and Nutrition (linked to	Make: Textiles (linked to Queen Victoria - crowns)	Technical knowledge: Mechanisms (linked to
Progressio	Science – Nutrition for	Revisit learning from EYFS	the Wright Brothers
n	humans/Geography –	Summer term	inventions)
	The Galapagos Islands)	■ Working	Revisit learning from Year
	Revisit learning from	confidently withing	1 Summer 1
	<mark>Year 1 Summer 2</mark>	a range of	<ul> <li>Work confidently</li> </ul>
	<ul> <li>Able to name</li> </ul>	contexts.	within a range of
	and sort foods	<ul> <li>Use simple design</li> </ul>	contexts.
	into the five	criteria to help	<ul> <li>Use simple design</li> </ul>
	groups in the	develop their ideas.	criteria to help
	eat-well plate.	<ul> <li>Use knowledge of</li> </ul>	develop their
	<ul> <li>Prepare simple</li> </ul>	existing products	ideas.
	dishes safely	to help come up	<ul> <li>Model ideas by</li> </ul>
	and hygienically	with ideas.	exploring
	without using a	<ul> <li>Develop and</li> </ul>	materials,
	heat source.	communicate ideas	components and
	<ul> <li>Use techniques</li> </ul>	by talking and	construction kits
	such as cutting,	drawing.	and by making
	peeling and	<ul> <li>Select from a range tools and</li> </ul>	templates and
	grating.	tools and	mock-ups.
	<ul> <li>Use a simple</li> <li>design criteria</li> </ul>	equipment,	<ul> <li>Develop and communicate</li> </ul>
	design criteria	explaining their choices.	communicate





			<ul> <li>Suggest how their products could be improved based on the success criteria.</li> <li>Use the correct technical vocabulary for the products they are undertaking.</li> </ul>	
	<ul> <li>to help develop their ideas.</li> <li>Develop and communicate ideas by talking and drawing.</li> <li>Follow procedures for safety and hygiene.</li> <li>Use materials and components including food ingredients.</li> <li>Make simple judgements about their products and ideas against design criteria.</li> </ul>	<ul> <li>Follow procedures for safety.</li> <li>Measure, mark out, cut and shape materials.</li> <li>Assemble, join and combine materials.</li> <li>Use finishing techniques, including those from art and design.</li> <li>Make simple judgements about their products and ideas against design criteria.</li> <li>Explain what they like and dislike about products.</li> </ul>	products could be	





Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge		Technical knowledge:	Structures (linked to			Cooking and Nutrition
C C		Mechanical systems	Ancient Egypt)			(linked to Science -
		(linked to Science –	Revisit learning from Year 1			plants)
		forces and magnets)	Spring 1			Revisit learning from Yea
		Revisit learning from	<ul> <li>Begin to explain</li> </ul>			<mark>2 Autumn 2</mark>
		Year 2 Summer 1	their choice of tools			<ul> <li>Begin to know a</li> </ul>
		<ul> <li>Begin to</li> </ul>	and equipment in			chefs who have
		describe the	relation to the skills			developed
		purpose of their	and techniques			ground-breakin
		products.	they will be using.			products.
		<ul> <li>Explain how</li> </ul>	<ul> <li>Begin to explain</li> </ul>			<ul> <li>That food</li> </ul>
		particular parts	their choice of			ingredients can
		of their products	materials and			be fresh, pre-
		work.	components			cooked and
		<ul> <li>Investigate and</li> </ul>	according to			processed.
		analyse: why	functional			<ul> <li>Is aware that a</li> </ul>
		materials have	properties and			recipe can be
		been chosen,	aesthetic qualities.			adapted by
		how well	<ul> <li>Order the main</li> </ul>			adding or
		products	stages of making.			substituting on
		achieve their	<ul> <li>Investigate and</li> </ul>			or more
		purposes,	analyse: how well			ingredients.
		whether	products have been			<ul> <li>That food is</li> </ul>
		products can be	designed, how well			grown, reared
		recycled or	products have been			and caught in
		reused.	made, why			the UK, Europe
		<ul> <li>How to use</li> </ul>	materials have			and the wider
		learning from	been chosen, how			world.
		science to help	well products			<ul> <li>Begin to know</li> </ul>
		design and	achieve their			how to prepare
		make products	purposes, when			and cook a
		that work.	products were			savoury dish





Skill	<ul> <li>How mechanical systems such as levers and linkages create movement.</li> <li>Begin to know of inventors who have developed ground-breaking products.</li> </ul>	designed and         made.         Begin to know of         engineers who         have developed         ground-breaking         products.         How to use         learning from         mathematics to         help design and         make products that         work.         How to make         strong, stiff shell         structures.	safely and hygienically including, where appropriate, the use of a heat source. Start to know techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Is aware that a healthy diet is made up from a variety and balance of different food and drinks, as depicted in the eat well plate. That to be active and healthy, food and drink are needed to provide energy for the body. Cooking and Nutrition
Progressio	Mechanical systems	Ancient Egypt)	(linked to Science -
n	(linked to Science –	Revisit learning from Year 1	plants)
	forces and magnets)	Spring 1	<mark>Revisit learning from Year</mark>
	Revisit learning from	<ul> <li>Work within a</li> </ul>	2 Autumn 2
1	Year 2 Summer 1	range of contexts.	





•	Work within a	Share and clarify	•	Work within a
	range of	ideas through		range of
	contexts.	discussion.		contexts.
•	Share and clarify	Use annotated	•	Share and clarify
	ideas through	sketches, cross-		ideas through
	discussion.	sectional drawings		discussion.
•	Use annotated	and exploded	•	Follow
	sketches to	diagrams to		procedures for
	develop and	develop and		safety and
	communicate	communicate their		hygiene.
	their ideas.	ideas.	•	Use a wider
•	Select tools and	Select tools and		range of
	equipment	equipment suitable		materials and
	suitable for the	for the task.		components
	task.	Follow procedures		from KS1,
•	Select materials	for safety.		including food
	and components	Use a wider range		ingredients.
	suitable for the	of materials and	•	Consider the
	task.	components from		views of others
•	Follow	KS1 including		to improve their
	procedures for	construction		work.
	safety.	materials and	•	Use their design
•	Use a wider	textiles.		criteria to
	range of	Measure, mark		evaluate their
	materials and	out, cut and shape		completed
	components	materials and		products.
	than KS1,	components with	•	Prepare and
	including	some accuracy.		cook a savoury
	mechanical			dish safely and
	components.	combine materials		hygienically
	Measure, mark	and components		including, where
	out, cut and	with some		appropriate, the
	share materials	accuracy.		use of a heat
	and	,		source.
	components.			
I				





Meta Cognition		<ul> <li>Identify the strengths and areas for development in their products.</li> <li>Investigate and</li> <li>as levers and linkages create movement.</li> </ul>	<ul> <li>Apply a range of finishing techniques.</li> <li>Refer to their design criteria as they design and make.</li> <li>Make strong, stiff shell structures.</li> </ul>			<ul> <li>Strat to use techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> </ul>
Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Concept	Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
Knowledge	Technical knowledge: electrical systems (linked to science – electricity) Revisit learning from Year 3 Autumn 2 Describe the purpose of their products. Explain how particular parts of their products work. Explain their choice of tools and equipment in relation to the skills and techniques they will be using.		Cooking and Nutrition (linked to the Roman Empire) Revisit learning from Year 3 Summer 2 Investigate and analyse: who designed and made the products, where products were designed and made and when products were designed and made. Know chefs who have developed ground-breaking products.		Design and technical knowledge: computer aided design and programming (linked to Computing) Revisit learning from Year 4 Autumn 1 Investigate and analyse: how well products have been designed, how well products achieve their purposes. Confidently talk about designers who have developed ground-breaking products.	





<ul> <li>Explain their</li> </ul>	<ul> <li>Know that a recipe</li> </ul>	<ul> <li>How to program</li> </ul>
choice of	can be adapted by	a computer to
materials and	adding or	control their
components	substituting one or	products.
according to	more ingredients.	
functional	<ul> <li>Know that food is</li> </ul>	
properties and	grown, reared and	
aesthetic	caught in the UK,	
qualities.	Europe and the	
<ul> <li>Investigate and</li> </ul>	wider world.	
analyse: how	<ul> <li>Know how to</li> </ul>	
well products	prepare and cook a	
have been	variety of	
designed, how	predominantly	
well products	savoury dishes	
have been	safely and	
made, why	hygienically	
materials have	including, where	
been chosen,	appropriate, the	
what methods of	use of a heat	
construction	source.	
have been used,	<ul> <li>Know how to use a</li> </ul>	
how well	range of	
products work,	techniques such as	
how well	peeling, chopping,	
products meet	slicing, grating,	
user needs and	mixing, spreading,	
wants, who	kneading and	
designed and	baking.	
made the	<ul> <li>Know that a</li> </ul>	
products,	healthy diet is	
whether	made up from a	
products can be	variety and	
recycled or	balance of different	
reused.	food and drink, as	





	<ul> <li>Know inventors, engineers and manufacturers who have developed ground-breaking products.</li> <li>Know how to use learning from science to help and design and make products that work.</li> <li>Know that mechanical and electrical systems have an input, process and output.</li> <li>Know how simple electrical circuits and components can be used to create functional products.</li> </ul>	depicted in the eat well plate. • Can explain that to be active and healthy, food and drink are needed to provide energy for the body.	
Skill Progressio n	Technical knowledge: electrical systems (linked to science – electricity) Revisit learning from Year 3 Autumn 2 • Work confidently	Cooking and Nutrition (linked to the Roman Empire)Design and technical knowledge: computer aided design and programming (linked to Computing)Revisit learning from Year 3 Summer 2Programming (linked to Computing)Work confidently with a range of contexts.Revisit learning from Year 4 Autumn 1	





within a ran	ge of	Make design		Develop their	
contexts.		decisions that take		wn design	
<ul> <li>Describe the</li> </ul>		account of the		riteria and use	
purpose of t	heir	availability of	th	nese to inform	
products.		resources.		neir ideas.	
<ul> <li>Indicate the</li> </ul>	•	Confidently order	• U	se computer	
design featu	ires	the main stages of	ai	ided design to	
of their proc		making.	de	evelop and	
that will app	peal 🔹	Correctly follow	СС	ommunicate	
to intended		procedures for	id	leas.	
users.		safety and hygiene.	• G	enerate realistic	
<ul> <li>Gather</li> </ul>	•	Confidently use a	id	leas, focusing on	
information		wider range of	th	ne needs of the	
about the ne	eeds	materials and	U:	ser.	
and wants o	of	components than	• Co	onsider the	
particular		KS1, including food	vi	ews of others,	
individuals a	and	ingredients.	in	cluding	
groups.	•	Refer to their	in	tended users, to	
Share and c	larify	design criteria as		nprove their	
ideas throug	gh l	they design and	W	ork.	
discussion.		make to inform the	■ U	se their design	
<ul> <li>Model their</li> </ul>		marking process.	CI	riteria to	
ideas using	•	Prepare and cook a	eı	valuate their	
prototypes.		variety of	СС	ompleted	
<ul> <li>Use annotat</li> </ul>	ted	predominantly		roducts	
sketches, cro	oss-	savoury dishes		onsidering the	
sectional		safely and		tended user.	
drawings to		hygienically			
develop and		including, where			
communica		appropriate, the			
their ideas.		use of a heat			
<ul> <li>Select tools</li> </ul>	and	source.			
equipment	•	Use a range of			
suitable for	the	techniques such as			
task.		peeling, chopping,			
	I	, , , , , , , , , , , , , , , , , , , ,			





Select materials	slicing, grating,		
and components			
suitable for the	kneading and		
task.	baking.		
<ul> <li>Follow</li> </ul>	buking.		
procedures for			
safety.			
Use a wider			
range of			
materials and			
components			
from KS1,			
including electrical			
components. <ul> <li>With accuracy</li> </ul>			
with accuracy,			
measure, mark			
out, cut and			
shape materials and			
components. <ul> <li>With accuracy</li> </ul>			
assemble, join			
and combine			
materials and			
components.			
Apply a lange of			
finishing			
techniques.			
<ul> <li>Identify the</li> </ul>			
strengths and			
areas for			
development in			
their ideas and			
products.			





Meta Cognition	<ul> <li>Refer to their design criteria as they design and make.</li> <li>Use their design criteria to evaluate their completed products.</li> <li>Use the correct technical vocabulary for the projects they are undertaking.</li> </ul>	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5 Concept	Autumn 1 Rebellion and Invasion	Autumn 2 Natural elements	Spring 1 Civilisation	Spring 2 Environmental	Discoveries	Summer 2 Culture
concept						
Knowledge	Make: Structures (linked to Vikings) Revisit learning from Year 3 Spring 1 Investigate and analyse: why materials have been chosen, what methods of construction have been used. Investigate different designers and engineers who	Mechanical Systems (linked to Carbon Footprint) Revisit learning from Year 3 Autumn 2 Think about how particular parts of their products work. Investigate and analyse: how well products have been designed, how well products		Cooking and Nutrition (linked to Geography/Science) Revisit learning from Year 4 Spring 1 Investigate and analyse: how well products meet user needs and wants. Investigate different chefs who have developed ground- breaking products.		





have days low - low - d	have hear		
have developed	have been	<ul> <li>Know that seasons</li> </ul>	
ground-breaking	made, why	may affect the	
products.	materials have	food available.	
	been chosen,	<ul> <li>Know how food is</li> </ul>	
	what methods	processed into	
	of construction	ingredients that	
	have been used,	can be eaten.	
	how well	<ul> <li>Know that recipes</li> </ul>	
	products work,	can be adapted to	
	how well	change the	
	products	appearance, taste,	
	achieve their	texture and	
	purposes.	aroma.	
	<ul> <li>Investigate</li> </ul>	<ul> <li>Know that</li> </ul>	
	different	different food and	
	inventors and	drink contain	
	engineers who	different	
	have developed	substances.	
	ground-breaking		
	products.		
	Know that		
	mechanical		
	systems have an		
	input, process		
	and output.		
	<ul> <li>Know the</li> </ul>		
	correct technical		
	vocabulary for		
	the projects they		
	are undertaking.		
	are anaertaking.		





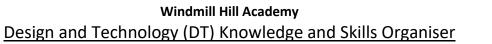
Skill	Make: Structures (linked	Mechanical Systems	Cooking and Nutrition	
Progressio	to Vikings)	(linked to Carbon	(linked to	
n	<mark>Revisit learning from Year</mark>	Footprint)	Geography/Science)	
	<mark>3 Spring 1</mark>	Revisit learning from	Revisit learning from Year 4	
	<ul> <li>Develop a simple</li> </ul>	<mark>Year 3 Autumn 2</mark>	Spring 1	
	design	<ul> <li>Describe the</li> </ul>	<ul> <li>Indicate the design</li> </ul>	
	specification to	purpose of their	features of their	
	guide their	products.	products that will	
	thinking.	<ul> <li>Carry out</li> </ul>	appeal to intended	
	<ul> <li>Share ideas</li> </ul>	research, using	users.	
	through	surveys,	<ul> <li>Develop a simple</li> </ul>	
	discussion.	interview,	design	
	<ul> <li>Begin to use</li> </ul>	questionnaires	specification to	
	annotated	and web-based	guide their	
	sketches, cross-	resources.	thinking.	
	sectional	<ul> <li>Develop a</li> </ul>	<ul> <li>Formulate step-by-</li> </ul>	
	drawing and	simple design	step plans as a	
	exploded	specification to	guide to making.	
	diagrams and	guide their	<ul> <li>Accurately use a</li> </ul>	
	exploded	thinking.	wider range of	
	diagrams to	<ul> <li>Share and clarify</li> </ul>	materials and	
	develop and	ideas through	components than	
	communicate	discussion.	KS1, including food	
	their ideas.	<ul> <li>Model their</li> </ul>	ingredients.	
	<ul> <li>Select tools and</li> </ul>	ideas using	<ul> <li>Consider the views</li> </ul>	
	equipment	prototypes.	of others,	
	suitable for the	<ul> <li>Generate ideas</li> </ul>	including intended	
	task.	for products.	users to improve	
	<ul> <li>Select materials</li> </ul>	<ul> <li>Select tools and</li> </ul>	their work.	
	and components	equipment	<ul> <li>Begin to critically</li> </ul>	
	suitable for the	suitable for the	evaluate the	
	task.	task.	quality of the	
	<ul> <li>Explain their</li> </ul>	<ul> <li>Follow</li> </ul>	design,	
	choice of	procedures for	manufacture and	
		safety.	fitness for purpose	

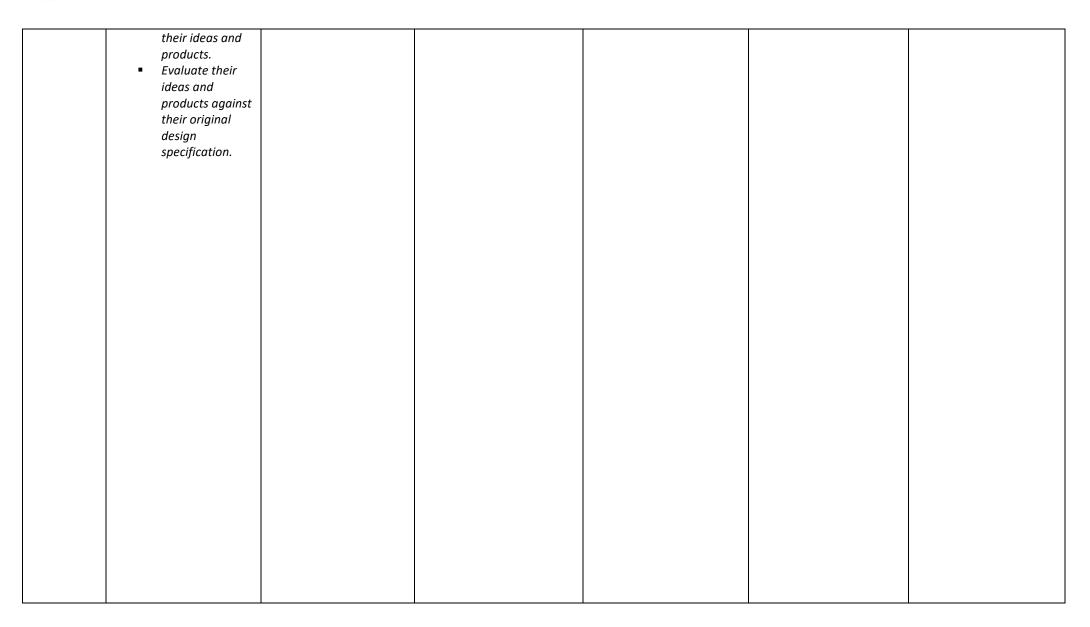




I	materials and	<ul> <li>Accurately use a</li> </ul>	of their products	
	components.	wider range of	as they design and	
	<ul> <li>Produce</li> </ul>	materials and	make.	
	appropriate lists	components	<ul> <li>Adapt recipes to</li> </ul>	
	of tools,	than KS1,	change the	
	equipment and	including	appearance, taste,	
	materials that	mechanical	texture or aroma.	
	they need.	components.		
	<ul> <li>Follow</li> </ul>	<ul> <li>Demonstrate</li> </ul>		
	procedures for	resourcefulness		
	safety.	when tackling		
	<ul> <li>Accurately use a</li> </ul>	practical		
	wider range of	problems.		
	materials and	<ul> <li>Begin to</li> </ul>		
	components	critically		
	than KS1,	evaluate the		
	including	quality of their		
	construction	design,		
	materials.	manufactur4e		
	<ul> <li>Accurately</li> </ul>	and fitness for		
	measure, mark	the purpose of		
	out, cut and	their product as		
	shape materials	they design and		
	and	make.		
	components.	<ul> <li>Use the correct</li> </ul>		
	<ul> <li>Accurately</li> </ul>	technical		
	assemble, join	vocabulary for		
	and combine	the projects they		
	materials and			
		are undertaking.		
	components.			
	<ul> <li>Identify the</li> </ul>			
	strengths and			
	areas for			
	development in			













Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Rebellion and Invasion	Natural elements	Civilisation	Environmental	Discoveries	Culture
	Technical knowledge:         Electrical systems (linked         to Science - Electricity)         Revisit learning from         Year 4 Autumn 1         • Explain how         particular parts         of their products         work.         • Explain their         choice of tools         and equipment         in relation to the         skills and         techniques they         will be using.         • Explain their         choice of         materials and         components         according to         their functional         properties.         • Investigate and         analyse: how         well products		Design and Technical knowledge: Computing to Program (linked to Computing) Revisit learning from Year 4 Summer 1 Investigate and analyse: how well have products been designed, how well products achieve their purposes, how innovative products are, what impact products have beyond their intended purpose.		Cooking and Nutrition (linked to Science – Animals including humans) Revisit learning from Year 5 Spring 2 Understand that a recipe can be adapted by adding or substituting one or more ingredients. Recognise what foods are available in different seasons. Know how food is processed into ingredients that can be eaten or used in cooking. Know that recipes can be adapted to change the
		Rebellion and InvasionNatural elementsTechnical knowledge: Electrical systems (linked to Science - Electricity) Revisit learning from Year 4 Autumn 1• Explain how particular parts of their products work.• Explain their choice of tools and equipment in relation to the skills and techniques they will be using.• Explain their choice of materials and components according to their functional properties.• Investigate and analyse: how	Rebellion and Invasion       Natural elements       Civilisation         Technical knowledge:       Electrical systems (linked to Science - Electricity)       Revisit learning from Year 4 Autumn 1         •       Explain how particular parts of their products work.       •         •       Explain their choice of tools and equipment in relation to the skills and techniques they will be using.       •         •       Explain their choice of tools and equipment in relation to the skills and techniques they will be using.       •         •       Explain their choice of fools and techniques they will be using.       •         •       Explain their choice of fools and techniques they will be using.       •         •       Explain their choice of fools and techniques they will be using.       •         •       Explain their choice of fools and components according to their functional properties.       •         •       Investigate and analyse: how well products       •	Rebellion and Invasion         Natural elements         Civilisation         Environmental           Technical knowledge: Electrical systems (linked to Science - Electricity) Revisit learning from Year 4 Autumn 1         Design and Technical knowledge: Computing to Program (linked to Computing)           *         Explain how particular parts of their products work.         Investigate and analyse: how well have products been designed, how well products and equipment in relation to the skills and techniques they will be using.         Investigate and analyse: how well have products achieve their purposes, how innovative products are, what impact products according to their functional properties.           *         Investigate and analyse: how well products	Rebellion and Invasion         Natural elements         Civilisation         Environmental         Discoveries           Technical knowledge: Electrical systems (linked to Science - Electricity) Revisit learning from Year 4 Autumn 1         Design and Technical knowledge: Computing to Program (linked to Computing)         Design and Technical knowledge: Computing to Program (linked to Computing)           • Explain how particular parts of their products work.         • Explain their choice of tools and equipment in relation to the skills and techniques they will be using.         • Investigate and analyse: how innovative products are, what impact products have beyond their intended purpose.           • Explain their choice of materials and components according to their functional properties.         • Explain their intended purpose.           • Investigate and analyse: how well products         • Investigate and analyse: how well products





made, why materials have been chosen, what methods of construction have been used, how well products work, how well products work, how well products ochieve their purposes, how much products cost to make. • Independently explore inventor, engineers and manufacturers who have developed ground-breaking products. • Know how more complex electrical circuits and break the set of the set	designed, how well products have been	appearance, taste, texture and aroma.
materials have       different food         been chosen,       and drink         what methods       contain different         of construction       substances -         have been used,       nutrients, water         how well       nutrients, water         products work,       are needed for         how well       products         achieve their       purposes, how         much products       cost to make.         independently       explore         explore       independently         explore       ground-breaking         products.       independently         engineers and       manufacturers         who have       developed         developed       ground-breaking         products.       independently         engineers and       manufacturers         who have       developed         developed       ground-breaking         products.       independently         engineers and       manufacturers         who have       developed         developed       ground-breaking         products.       independently         electrical circuits       and components <t< td=""><td></td><td></td></t<>		
been chosen, what methods of construction have been used, have been used, have been used, have been used, have been used, how well products work, how well products achieve their purposes, how much products cost to make. Independently explore inventor, engineers and manufacturers who have developed ground-breaking products. E. Know how more complex electrical circuits and components con be used to create functional		
what methods       contain different         of construction       substances -         have been used,       nutrients, water         how well       products work,         products       achieve their         purposes, how       much products         much products       cachieve their         purposes, how       much products         much products       cashieve their         purposes, how       much products         much products       cashieve their         purposes, how       much products         much products       cashieve their         purposes, how       much products         endspineers and       manufacturers         who have       developed         ground-breaking       products.         readuets.       Know how more         complex       electrical circuits         and components       can be used to         create       functional		
of construction       substances -         have been used,       nutrients, water         how well       artificity, water         products work,       how well         products       achieve their         purposes, how       matchieve their         monufactures       cost to make.         •       Independently         explore       inventor,         inventor,       engineers and         manufacturers       who have         developed       ground-breaking         products.       •         •       Know how more         complex       electrical circuits         and components       can be used to         create       functional		
have been used, how well products work, how well products a chieve their purposes, how much products c cost to make. Independently explore inventor, engineers and manufacturers who have developed ground-breaking products. Know how more complex electrical circuits and components can be used to create functional		
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how well products achieve their purposes, how much products cost to make. • Independentily explore inventor, engineers and manufacturers who have developed ground-breaking products. • Know how more complex electrical circuits and components can be used to create functional		
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achieve their       purposes, how         purposes, how       much products         cost to make.       Independently         explore       inventor,         engineers and       manufacturers         who have       developed         ground-breaking       products.         Know how more       complex         electrical circuits       and components         can be used to       create         functional       functional		ncuni.
purposes, how       much products         cost to make.       Independently         independently       explore         inventor,       engineers and         manufacturers       who have         developed       ground-breaking         products.       Know how more         complex       electrical circuits         and components       can be used to         create       functional		
much products         cost to make.         Independentiy         explore         inventor,         engineers and         manufacturers         who have         developed         ground-breaking         products.         Know how more         complex         electrical circuits         and components         can be used to         create         functional		
cost to make. Independently explore inventor, engineers and manufacturers who have developed ground-breaking products. Know how more complex electrical circuits and components can be used to create functional		
<ul> <li>Independently explore inventor, engineers and manufacturers who have developed ground-breaking products.</li> <li>Know how more complex electrical circuits and components can be used to create functional</li> </ul>		
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who have         developed         ground-breaking         products.         Know how more         complex         electrical circuits         and components         can be used to         create         functional		
developed ground-breaking products. Know how more complex electrical circuits and components can be used to create functional		
ground-breaking   products.   Know how more   complex   electrical circuits   and components   can be used to   create   functional		
products.   Know how more   complex   electrical circuits   and components   can be used to   create   functional		
<ul> <li>Know how more complex electrical circuits and components can be used to create functional</li> </ul>		
complex       electrical circuits         and components       and components         can be used to       create         functional       b		
electrical circuits and components can be used to create functional		
and components can be used to create functional		
can be used to create functional		
create functional		
functional		
	products.	





Skill	Technical knowledge:	Design and Technical	Cooking and Nutrition
Progressio	Electrical systems (linked	knowledge: Computing to	(linked to Science –
n	to Science - Electricity)	Program (linked to	Animals including
	Revisit learning from	Computing)	humans)
	Year 4 Autumn 1	Revisit learning from Year 4	Revisit learning from Year
	<ul> <li>Work</li> </ul>	Summer 1	<mark>5 Spring 2</mark>
	confidently	<ul> <li>Work confidently</li> </ul>	■ Working
	within a	within a different	confidently
	different	context.	within a range of
	context.	<ul> <li>Indicate the design</li> </ul>	contexts.
	<ul> <li>Consider the</li> </ul>	features of their	<ul> <li>Carry out in</li> </ul>
	design features	products that will	depth research,
	of their products	appeal to intended	using surveys,
	that will appeal	users.	interviews,
	to intended	<ul> <li>Consider the</li> </ul>	questionnaires
	users.	needs, wants,	and web-based
	<ul> <li>Explain how</li> </ul>	preferences and	resources.
	particular parts	values of	<ul> <li>Develop a design</li> </ul>
	of their products	particular	specification to
	work.	individuals and	guide their
	<ul> <li>Develop a</li> </ul>	groups.	thinking.
	design	<ul> <li>Share and clarify</li> </ul>	Formulate step-
	specification to	ideas through	by-step plans as
	guide their	discussion, taking	a guide to
	thinking.	on board the views	making for
	<ul> <li>Use annotated</li> </ul>	of others.	others to
	sketches, cross-	<ul> <li>Use computer-</li> </ul>	confidently
	sectional	aided design to	follow.
	drawings and	develop and	■ Follow
	exploded	communicate their	procedures for
	diagrams to	ideas.	safety and
	develop and	<ul> <li>Generate</li> </ul>	hygiene and
	communicate	innovative ideas.	supporting
	their ideas.	<ul> <li>Consider the views</li> </ul>	others to do so.
		of others,	





suitable for the task.       specification, identifying         Formulate step by step plans as a guide to making.       successes and next steps.         Accurately use a wider range of materials and components       Explain that seasons may affect the food available.         Image: the food step wider range of materials and components       Image: the food available.         Image: the food available.       Image: the	<ul> <li>Make design decisions, taking account of constraints, such as time and resources.</li> <li>Select tools and equipment suitable for the task.</li> <li>Select materials and components</li> </ul>	including the intended users, to improve their work and use this to refine their products.	<ul> <li>Accurately use a wider range of materials and components than KS1, including food ingredients.</li> <li>Evaluate their ideas and products against their original design</li> </ul>
Dractice in their	<ul> <li>Formulate step by step plans as a guide to making.</li> <li>Accurately use a wider range of materials and components than KS1, including electrical components.</li> <li>Accurately apply a range of finishing techniques, including those from art and</li> </ul>		<ul> <li>successes and next steps.</li> <li>Explain that seasons may affect the food available.</li> <li>Recognise what foods are available in different seasons.</li> <li>Know that recipes can be adapted to change the appearance, taste, texture and aroma,</li> </ul>





Meta       Cognition	<ul> <li>Use techniques that involve a number of steps.</li> <li>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.</li> <li>Evaluate their ideas and products against their original design specification, identifying successes and next steps.</li> </ul>