

CofE

Primary School



Scheme of work:

Design and Technology

Embedding our Intent - Design Technology

Our Design Technology curriculum prepares children to deal with tomorrow's rapidly changing world. It enables them to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems. Beginning with the foundations in EYFS, our goal is to encourage our children to become independent, creative problem solvers and thinkers as individuals and part of a team that extends beyond Frittenden CofE Primary School.

Through the study of Design and Technology, they combine practical skills with the key aspects of the designprocess to make products fit for a purpose in a range of contexts. The children will work with a range of materials including wood, textiles and paper constructions. It is important for the children to understand the importance of making on going changes and improvements during the designing and making process. In KS2, children will also look at key events and individual designers in the History of Technology for example the impact of Thomas Edison and Lewis H Latimer in the creation of the light bulb. Children complete DT projects three times over the year and these will often be blocked and may be linked to other curricular links. As part of the products the children follow the design process to design and make a product for a range of purposes and audiences.

The children will be taught how to cook and apply the principles of nutrition and healthy eating as well as looking at the seasonality of ingredients and how they are grown. We make use of our school garden to grow our own ingredients.

Our Christian values underpin all aspects of our teaching and learning. The high aspirations and expectations the teaching team have for the children ensure that no child is given a learning limit or ceiling and that everychild is given the opportunity to shepherd, flourish and thrive. The school values are integrated into every D.T. lesson.

Respect: Respect it at the core of our design and technology lessons: respect for the world around us and the environment; respecting innovation and invention; respect for the struggles involved in designing and respect for the resilience of not giving up; respect for the tools and materials we use in learning.

Joy: Children are encouraged to find joy in the everyday; experience joy for their success and the success of others; and to share their joy. This is done through offering supportive advice and giving praise to peers for brilliant effortand achievements.

Compassion: We have compassion for the struggles of design and the designers. A compassionate designer recognises that we are in it together and is a **better model to their peers.**

Implementation

A Clear and comprehensive scheme of work in line with the National Curriculum. The Design Technology National Curriculum and EYFS is planned for and covered in full within the EYFS, KS1 and KS2 school curriculum. Whilst the EYFS and National Curriculum forms the foundation of our curriculum, we make sure that children learn additional skills, knowledge and understanding and enhance our curriculum as and when necessary.

We deliver design and technology projects with a clear structure. Each year group undertake a construction topic, a textile topic and a food/drink topic.

- Delivery showing clear following of the design process where each project fill follow: research, design, make and evaluate.
- A range of skills will be taught ensuring that children are aware of health and safety issues related to the tasks undertaken
- Clear and appropriate cross curricular links to underpin learning in multi areas across the curriculum giving the children opportunities to learn life skills and apply skills to 'hands on' situations in a purposeful context.
- Children are asked to self-evaluate their work.
- Independent learning: In design technology children may well be asked to solve problems and develop their learning independently. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology.
- Collaborative learning: In design and technology children may well be asked to work as part of a team learning to support and help one another towards a challenging, yet rewarding goal.

Impact

Children will have clear enjoyment and confidence in design and technology that they will then apply to other areas of the curriculum. They will ultimately know more, remember more and understand more about Design Technology, demonstrating this knowledge when using tools or skills in other areas of the curriculum and in opportunities out of school. The large majority of children will achieve age related expectations in Design Technology. As designers children will develop skills and attributes they can use beyond school and into adulthood.

	Term 1 / 2	Term 3 / 4	Term 5 / 6
Dahl A	Textiles:	Mechanisms:	Food:
	joining fabric	Wheels and axels	Healthy diet. Fruit salad/
			Kebabs
Dahl B	Structures:	Mechanisms:	Textiles:
	Free standing	Slides and levers	Joining sides
Wells A	Food:	Mechanisms:	Electrical Systems:
	Healthy diet – packed	Levers and Linkage	Simple circuits. Torch
	lunches. Sandwiches/ rolls		making
Wells B	Textiles:	Mechanical Systems:	Structures CAD:
	2d to 3d	Pneumatics	3D Nets
Shakespeare A	Electrical Systems:	Mechanical systems:	Food:
	More complex switches and	Cams	Exploring food from different
	circuits		cultures
Shakespeare B	Structures:	Mechanical systems:	Textiles: CAD
	Free standing	Pulleys and cams	Computer generated
	_		pattern

Design and Technology Key Concepts

	Dahl A	Dahl B	Wells A	Wells B	Shakes A	Shakes B
Design						
Make						
Innovate						
Adapt						
Evaluate						
Functionality						
Nutrition						
Problem finding						

MY LEARNING PATHWAY: Design Technology			
	EYFS		
Three and Four- Year-Olds	Understanding the World:		
	Explore collections of materials with similar and/or different properties. Talk about whe they see, using a wide vocabulary.	nat	
	Talk about the differences between materials and changes they notice.		
	Explore different materials freely, to develop their ideas about how to use themand make.	what to	
	Develop their own ideas and then decide which materials to use to express them. Jo different materials and explore different textures	pin	
Children in Reception	ildren in ception Personal, Social and Emotional Development:		
	Show resilience and perseverance in the face of challenge		
	Expressive Arts and Design:		
	Return to and build on their previous learning, refining ideas and developing theirability to represent them.		
	Create collaboratively, sharing ideas, resources and skills		
Early Learning Goals	Personal, Social and Emotional Development:		
	Set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate		
	Expressive Arts and Design:		
	Safely use and explore a variety of materials, tools and techniques, experimenting with color design, texture, form and function.		
	Share their creations, explaining the process they have used.		
	Compassion, Respect, Joy	EYFS	

Dahl Year A MY LEARNING JOURNEY: Design Technology				
'ICAN'	The skills I have learnt	'I KNOW' <i>The knowledge I have</i>		
TERM 1/ 2 TEXTILES	Joining fabric: Making a puppet Designing I can design a functional and appealing product for a chosen user and purpose based on simple design criteria. I can generate, develop, model and communicate my ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. Making I can select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. I can select from and use textiles according to their characteristics. Evaluating I can explore and evaluate a range of existing textile products relevant to the project being undertaken. I can evaluate my ideas throughout and my final products against original design criteria. Technical knowledge and understanding I understand how simple 3-D textile products are made, using a template to create two identical shapes. I understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. I can explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. I can use technical vocabulary relevant to the project.	I know who I am designing my product for and why. I know how to use a template to create my design. I know how to join fabric together. I know how to embellish my design. I know how to use equipment such as glue guns or needles safely. Vocabulary: names of existing products, joining and finishing techniques, tools, fabrics and components template, pattern pieces, mark out, join, decorate, finish features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function		

	Making a Vehicle	I know who I am designing my product
	l can generate initial ideas and simple design criteria	for and why.
	through talking and using own experiences. I can develop and communicate ideas through drawings and mock-ups	I know what wheels, axels and axel holders are.
AXELS	Making	I know what fixed and freely moving axels are.
EELS & A	I can select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing	I know how to design and make a vehicle for a purpose
ANISMS WH	I can select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	I know how to use tools and equipment safely.
CH	Evaluating	
1/ 4 ME	I can explore and evaluate a range of products with wheels and axles.	Vocabulary: vehicle, wheel, axle, axle
RM	I can evaluate my ideas throughout and my products	holder, chassis, body, cab
Ë		assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism
	Technical knowledge and understanding	names of tools, equipment and materials
	I can explore and use wheels, axles and axle holders.	used
	I can distinguish between fixed and freely moving axies.	design make evaluate purpose user
		criteria, functional
	Vegetable Soup Designing I can design appealing products for a particular user based on simple design criteria	I know who I am designing my product for and why.
	I can generate initial ideas and design criteria through investigating a variety of fruit and vegetables. I can communicate these ideas through talk and	l know where a range of fruits and vegetables come from.
	drawings.	l know what a healthy diet is: I know what the eatwell plate is.
5 Food	Making I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. I can select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.	I know how to use kitchen utensils safely.
Term 5/ (Evaluating I can taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.	Vocabulary: fruit and vegetable names, names of equipment and utensils
	I can evaluate ideas and finished products against design criteria, including intended user and purpose.	sensory vocabulary e.g., soft, juicy, crunchy, sweet, sticky, smooth, sharp, crim, sour, bard
	Technical knowledge and understanding I can understand where a range of fruit and vegetables come from e.g. farmed or grown at home. I can understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . I can use technical and sensory vocabulary relevant to the project.	crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Grea Dep In addit age exp	ter I can make links between my own experiences of proc th I can explain why I have used certain materials of tech ion to I can use age expected practical skills in a more refine ected I can evaluate my product with in more detail.	ducts to help me generate ideas. nniques when making a product. ed or independent way.

<mark>Design</mark>, <mark>Make, Innovate</mark>, <mark>Adapt</mark>, Evaluate, Functionality, Nutrition, Problem Finding

Dahl Year B MY LEARNING JOURNEY: Design Technology				
	'I CAN' The skills I have learnt	'I KNOW' The knowledge I have		
Ges	Free standing Structure Designing I can generate ideas based on simple design criteria and my own experiences, explaining what they could make. I can develop, model and communicate my ideas through talking, mock-ups and drawings.	I know who I am designing my product for and why. I know how to make my freestanding structure stronger, for example by using buttresses, knowing the center of gravity or thinking carefully about brick placement.		
	Making I can plan by suggesting what to do next. I can select and use tools, skills and techniques explaining my choices. I can select new and reclaimed materials and	I know how to use tools and equipment safely. I know how to join materials together.		
Structu	construction kits to build my structures. I can use simple finishing techniques suitable for the	Vocabulary: cut, fold, join, fix		
Term 1/ 2 Si	structure I am creating. Evaluating I can explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. I can evaluate my product by discussing how well it works in relation to the purpose, the user and	structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic		
	whether it meets the original design criteria. Technical knowledge and understanding I can make my freestanding structures stronger, stiffer and more stable.	circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function		
	I can use technical vocabulary relevant to the project.			
	Slides and Leavers Designing L can generate ideas based on simple design criteria and my	I know who I am designing my product for and why.		
	own experiences, explaining what I could make. I can develop, model and communicate my ideas through drawings and mock-ups with card and paper	l know what sliders and levers are and can identify them.		
(0	Making	l know that different mechanisms produce different movement.		
Term 3 / 4 Mechanisms	I can select and use tools, explaining my choices, to cut, shape and join paper and card. I can use simple finishing techniques suitable for the product they are creating.	I know how to use tools and equipment safely.		
	Evaluating I can explore a range of existing books and everyday	Vocabulary: slider, lever, pivot, slot, bridge/guide		
	products that use simple sliders and levers. I can evaluate my product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	card, masking tape, paper fastener, join pull, push, up, down, straight, curve, forwards, backwards		
	Technical knowledge and understanding I can explore and use sliders and levers. I understand that different mechanisms produce different types of movement. I can use technical vocabulary relevant to the project.	design, make, evaluate, user, purpose, ideas, design criteria, product, function		

<mark>Design</mark>, <mark>Make, Innovate</mark>, <mark>Adapt</mark>, Evaluate, Functionality, Nutrition, Problem Finding

	Fruit salaa Designing I can design appealing products for a particular user based on simple design criteria.		I know who I am designing my product for and why.	
	l can g investiç l can c	penerate initial ideas and design criteria through gating a variety of fruit and vegetables. Communicate these ideas through talk and drawings.	l know where a range of fruits and vegetables come from.	
	Making I can u slice, so	g se simple utensils and equipment to e.g. peel, cut, queeze, grate and chop safely.	I know what a healthy diet is: I know what the eatwell plate is.	
	l can se	elect from a range of fruit and vegetables according	l know what '5 a day' means.	
poq	to their create	a chosen product.	I know how to use kitchen utensils safely.	
Term 5 / 6 Fc	Evalua I can to	ting aste and evaluate a range of fruit and vegetables to	I know how to cut, peel and grate.	
	l can e criteria	valuate ideas and finished products against design , including intended user and purpose.	Vocabulary: fruit and vegetable names, names of equipment and utonsite	
	Technic I can u come I can u varied	cal knowledge and understanding nderstand where a range of fruit and vegetables from e.g. farmed or grown at home. nderstand and use basic principles of a healthy and diet to prepare dishes, including how fruit and	sensory vocabulary e.g., soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard	
	vegeto I can u project	se technical and sensory vocabulary relevant to the t.	flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria	
Greater I can make connections between my own experience		I can make connections between my own experience	ces of products to help me generate ideas.	
Dep In addi	oth tion to	I can begin to select my own materials or skills and ex techniques whenmaking a product.	xplain why I have used certain materials or	
go expe	cted	I can use age expected practical skills in a more refir	ned or	
		independent way.I can evaluate my product with in more		
		detail.		

	Wells Year A MY LEARNING LOURNEY: Design Technology				
	'I CAN' The skills I have learnt 'I KNOW' The knowledge I have				
2 Food	 Healthy and Varied Diet Designing I can generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. I can use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. Making I can plan the main stages of a recipe, listing ingredients, utensils and equipment. I can select and use appropriate utensils and equipment to prepare and combine ingredients. I can select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. 	I know who I am designing my product for and why. I know how to plan my make and put the steps in order. I know how to use appropriate equipment ad utensils safely. I know about fresh and processed ingredients and whether they are grown, reared or caught. I know how to prepare food hygienically.			
Term 1/	Evaluating I can carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others. Technical knowledge and understanding I can use appropriate equipment and utensils to prepare and combine food. I can select from a range of fresh and processed ingredients appropriate to my product, and I can identify whether they are grown, reared or caught. I can use relevant technical and sensory vocabulary appropriately.	Vocabulary: name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations			

	Levers and Linkage Designing I can generate realistic ideas and my own design criteria through discussion, focusing on the needs of the user. I can use annotated sketches and prototypes to develop, model and communicate ideas.	I know who I am designing my product for and why. I know how to plan my make and put the steps in order.
Term 3/ 4 Mechanical Systems	Making I can order the main stages of making. I can select from and use appropriate tools with some accuracy to cut, shape and join paper and card. I can select from and use finishing techniques suitable for the product I am creating.	I know what levers and linkage are. I know what fixed and loose pivots are.
	Evaluating I can investigate and analyse books and, where available, other products with lever and linkage mechanisms. I can evaluate my own products and ideas against criteria and user needs, as I design and make.	Vocabulary: mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output
	Technical knowledge and understanding I can understand and use lever and linkage mechanisms. I can distinguish between fixed and loose pivots. I can use technical vocabulary relevant to the project.	linear, rotary, oscillating, reciprocating user, purpose, function prototype, design criteria, innovative, appealing, design brief
	Simple Circuits Designing I can gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. I can generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross- sectional and exploded diagrams.	I know who I am designing my product for and why. I know how to plan my make and put the steps in order. I know how to create a circuit with a switch.
Term 5 / 6 Electrical Systems	MakingI can order the main stages of making.I can select from and use tools and equipment to cut, shape, joinand finish with some accuracy.I can select from and use materials and components, includingconstruction materials and electrical components according totheir functional properties and aesthetic qualities.EvaluatingI can investigate and analyse a range of existing battery-powered	I know how to use electrical systems in my product. Vocabulary: series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip
	I can evaluate my ideas and products against my own design criteria and identify the strengths and areas for improvement in my work. Technical knowledge and understanding I understand and use electrical systems in my products, such as series circuits incorporating switches, bulbs and buzzers. I can apply my understanding of computing to program and control my products I can use technical vocabulary relevant to the project.	control, program, system, input device, output device user, purpose, function, prototype, design criteria, innovative, appealing, design brief

Greater	I can make connections between my own experiences of products to help me generate
Depth	ideas and evaluate existing products.
In addition to	I can select my own materials or techniques and explain why I have used certain materials or
age	techniques whenmaking a product.
expected	I can use age expected practical skills in a more refined or independent way.
	I can evaluate my product with in more detail, being critical of strengths and weaknesses

Wells Year B MY LEARNING JOURNEY: Design Technology				
'I CAN' The skills I have learnt		'I KNOW' The knowledge I have		
	2D Shape to 3D product Designing I can generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. I can produce annotated sketches, prototypes, final product sketches and pattern pieces.	I know who I am designing my product for and why. I know how to plan my make and put the steps in order. I know what 2D and 3D mean.		
	Making I can plan the main stages of making.	l know how to create a net and join it together to make a 3D shape		
TERM 1 / 2 TEXTILES	I can select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. I can select fabrics and fastenings according to their functional characteristics e.g. strength, and	I know how to add fastenings		
		I know how to strengthen, stiffen and reinforce fabric		
	aesthetic qualities e.g. pattern. Evaluating I can investigate a range of 3-D textile products relevant to the project. I can test my product against the original design criteria and with the intended user. I can take into account others' views. I can understand how a key event/individual has influenced the development of the chosen product and/or fabric.	Vocabulary: fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces		
	Technical knowledge and understanding I can strengthen, stiffen and reinforce existing fabrics. I can securely join two pieces of fabric together. I can understand the need for patterns and seam allowances. I can use technical vocabulary relevant to the project.			

	Pneumatics Designing I can generate realistic and appropriate ideas and	I know who I am designing my product for and why.
	my own design criteria through discussion, focusing on the needs of the user. I can use annotated sketches and prototypes to	I know how to plan my make and put the steps in order.
TEMS	develop, model and communicate ideas.	I know what a pneumonic mechanism is and how to incorporate it in my project.
ICAL SYS	Making I can order the main stages of making. I can select from and use appropriate tools with some accuracy to cut and join materials and	I know how to cut and join materials and components such as tubes, syringes and balloons.
MECHAN	components such as tubing, syringes and balloons. I can select from and use finishing techniques suitable for the product I am creating.	Vocabulary: components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener
ERM 3 / 4	Evaluating I can investigate and analyse books, videos and products with pneumatic mechanisms.	pneumatic system, input movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight
Ħ	I can evaluate my own products and ideas against criteria and user needs, as I design and make.	linear, rotary, oscillating, reciprocating
	Technical knowledge and understanding I can use pneumatic mechanisms. I can use technical vocabulary relevant to the project.	user, purpose, function, prototype, design criteria, innovative, appealing, design brief, research, evaluate, ideas, constraints, investigate
Term 5 / 6 Structures	Notes Designing I can generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. I can develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. Making I can order the main stages of making. I can select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. I can explain my choice of materials according to functional properties and aesthetic qualities. I can use finishing techniques suitable for the product they are creating. Evaluating I can investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. I can test and evaluate my products against the design criteria and the intended user and purpose. Technical knowledge and understanding I can develop and use knowledge of how to construct strong, stiff shell structures. I can develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.	I know who I am designing my product for and why. I know how to plan my make and put the steps in order. I know what nets are. I know how to construct strong, stiff, shell structures. Vocabulary: shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype
	project.	

Greater Depth	I can make connections between my own experiences of products to help me generate ideas and evaluate existing products
In addition to age	I can select my own materials or techniques and explain why I have used certain materials or techniques when making a product.
expected	I can use age expected practical skills in a more refined or independent way.
	I can evaluate my product with in more detail, being critical of strengths and weaknesses

	Shakespec MY LEARNING JOURNE	are Year A FY: Design Technology
'I CAN'	The skills I have learnt	'I KNOW' The knowledge I have
	More Complex Switches Designing	I know who I am designing my product for and why.
ctrical Systems	I can use research to develop a design	I know how to create a step by step plan.
	responds automatically to changes in the	I know how to use equipment and materials safely.
	I can take account of constraints including time, resources and cost	I know how to use a computer control program.
	I can generate and develop innovative ideas and share and clarify these through discussion. I can communicate ideas through annotated	I know how to use electrical systems.
	sketches, pictorial representations of electrical circuits or circuit diagrams.	Vocabulary: series circuit, parallel circuit, names of switches and components, input device, output device,
	Making	system, monitor, control, program, flowchart
	making, listing tools, equipment, materials and components. I can competently select and accurately	function, innovative, design specification, design brief, user, purpose
	assemble materials, and securely connect electrical components to produce a reliable, functional product.	
n 1 / 2 Ele	program to enable an electrical product to work automatically in response to changes in the environment.	
Terr	Evaluating	
	I can continually evaluate and modify the working features of the product to match the initial design specification.	
	l can test the system to demonstrate its effectiveness for the intended user and purpose.	
	l can investigate famous inventors who developed ground-breaking electrical systems and components.	
	Technical knowledge and understanding I can use electrical systems in my products. I can apply my understanding of computing to	
	program, monitor and control their products. I can use technical vocabulary relevant to the project.	

	Cams	I know who I am designing my product for and why.
[Designing	
	I can generate innovative ideas by carrying out	I know how to create a step by step plan.
	research using surveys, interviews, questionnaires	I know how to use againment and materials safely
	and web-based resources.	i know now to use equipment and materials safety.
	auide their thinking	I know that mechanical systems have an input process
	l can develop and communicate ideas through	and an output
	discussion, annotated drawings, exploded	
	drawings and drawings from different views.	I know how cams can be used to produce different
	0 0	types of movement and change the direction of
	Making	movement.
	I can produce detailed lists of tools, equipment	
	and materials. Formulate step-by-step plans	Vocabulary: cam, snail cam, off-centre cam, peg cam,
	and, if appropriate, allocate tasks within a	pear shaped cam
S	team.	follower, axle, shaft, crank, handle, housing, framework
6 G	I can select from and use a range of fools and	rotation, rotary motion, oscillating motion, reciprocating
yste	equipment to make products that that are	motion manatata di skatabas, svala da di saranas
N N	within the constraints of time, resources and	annotated sketches, exploded diagrams
<u>0</u>	cost	movement
an	0031.	design decisions functionality innovation authentic
с С	Evaluatina	user, purpose, design specification, design brief
Хe	In can compare the final product to the original	
4	design specification.	
3 /	I can test products with the intended user,	
Ε	where safe and practical, and critically	
Ter	evaluate the quality of the design,	
	manutacture, tunctionality and titness tor	
	purpose.	
	I can consider the views of others to improve	
	Inell work.	
	engineering companies relevant to the project	
k I I I I		
	Technical knowledge and understanding	
	I understand that mechanical systems have an	
	input, process and an output.	
	I understand how cams can be used to	
	produce different types of movement and	
	change the direction of movement.	
	I can use technical vocabulary relevant to the	
	project.	

Design, Make, Innovate, <mark>Adapt</mark>, Evaluate, Functionality, Nutrition, Problem Finding

	<u> </u>		
	Celebrc Designir	ng tood from other cultures	I know who I am designing my product for and why.
	l can ge	enerate innovative ideas through	I know how to create a step by step plan.
	researci develor	n and discussion with peers and adults to a design brief and criteria for a design	know how to use equipment and materials safely
	specific	ation.	
	l can ex	plore a range of initial ideas, and make	Know how to use utensils and equipment including
	design o linked to	decisions to develop a final product	heat sources to prepare and cook tood.
	l can us	e words, annotated sketches and	I know about seasonality in relation to food products
	informa	tion and communication technology as	and the source of different food products.
	approp	riate to develop and communicate	Vacabular, ingradiants vagst daugh bran flaur
	ideus.		wholemeal, unleavened, baking soda, spice, herbs
	Making		
	l can wr	ite a step-by-step recipe, including a list	fat, sugar, carbohydrate, protein, vitamins, nutrients,
	l can se	lect and use appropriate utensils and	intolerance, savoury, source, seasonality
	equipm	ent accurately to measure and	
6 Food	combin	e appropriate ingredients.	utensils, combine, fold, knead, stir, pour, mix, rubbing
	product	appropriately for the intended user and	in, whise, beat, toil out, shape, splitter, ctomble
	purpose).	design specification, innovative, research, evaluate,
n 5/	Evaluati	'na	design brief
lerr	l can co	arry out sensory evaluations of a range of	
-	relevant products and ingredients. Record the		
	evaluations using e.g. tables/graphs/charts such		
	I can evaluate the final product with reference		
	back to the design brief and design		
	specific	ation, taking into account the views of then identifying improvements	
	l can ur	iderstand how key chefs have	
	influenc	ed eating habits to promote varied and	
	healthy	diets.	
	Technic	al knowledge and understanding	
	l can us	e utensils and equipment including heat	
	sources Llinders	to prepare and cook tood.	
	food pro	oducts and the source of different food	
	product	's.	
	I can use relevant technical and sensory vocabulary		
Greater I can c		I can critically evaluate existing product	s and make connections between my own experiences
Dep	חוכ	L can select my own materials or technic	ules and explain why I have used certain materials or
In addi	ion to techniques when making a product.		
ag exner	ge Acted I can use age expected practical skills in a mc		n a more refined or independent way.
		I can critically evaluate my own produc	t during and at the end of the design process.

Shakespeare Year B MY LEARNING JOURNEY: Design Technology

CAN' The skills I have learnt	'I KNOW' The knowledge I have
 Frame Structure Designing I can carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. I can develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. I can generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. Making I can competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. I can use finishing and decorative techniques suitable for the product they are designing and making. Evaluating I can nesearch key events and individuals relevant to frame structures. I can research key events and individuals relevant to frame structures. I can strengthen, stiffen and reinforce 3-D frameworks. I can use technical vocabulary relevant to the revinct	 I KNOW' The knowledge I have I know who I am designing my product for and why. I know how to create a step by step plan. I know how to use equipment and materials safely. I know how to strengthen, stiffen and reinforce my 3D framework. <i>Vocabulary:</i> frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional

	Pullevs or Gears	know who I am designing my product for and
	Designing	why.
l r	I can generate innovative ideas by carrying out	
	research using surveys, interviews, questionnaires and	know how to create a step by step plan.
	web-based resources.	. ,
	I can develop a simple design specification to guide	know how to use equipment and materials safely.
	their thinking.	
	I can develop and communicate ideas through	know that mechanical and electrical systems
	discussion, annotated drawings, exploded drawings	have an input, process and an output.
	and drawings from different views.	
		know how gears and pulleys are used to speed
	Making	up, slow down or change the direction of
	I can produce detailed lists of tools, equipment and	movement.
ns	materials. Formulate step-by-step plans and, if	
fer	appropriate, allocate tasks within a team.	Vocabulary: pulley, drive belt, gear, rotation,
λs	I can select from and use a range of tools and	spindle, driver, follower, ratio, transmit, axle, motor
N N	equipment to make products that that are accurately	circuit, switch, circuit diagram
<u>.</u> <u>.</u>	assembled and well finished. Work within the	annotated drawings, exploded diagrams
a	constraints of time, resources and cost.	mechanical system, electrical system, input,
с С		process, output
٨e	Evaluating	design decisions, functionality, innovation,
4	can compare the final product to the original design	authentic, user, purpose, design specification,
2	specification.	design brief
Ē	I can test products with intended user and critically	
er	evaluate the quality of the design, manufacture,	
F	runctionality and titness for purpose.	
	I can consider the views of others to improve my work.	
	and a companies relevant to the project	
	engineering companies relevant to the project.	
	Lechnical knowledge and understanding	
	I can understand that mechanical and electrical	
	systems have an input process and an output	
	I can understand how gears and pulleys can be used	
	to speed up, slow down or change the direction of	
	movement.	
	I can use technical vocabulary relevant to the	
	project.	

CAD	D in Textiles	know who I am designing my product for and
		why.
Desi I car	Designing I can generate innovative ideas through research including surveys, interviews and questionnaires. I can develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes including using computer-aided design. I can design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.	I know how to create a step by step plan.
l car thro		I know how to use equipment and materials safely
prot I car		I know how to take measurements.
proc base		I know how to input measurements to create a CAD for my product.
Mak I car relev	ting n produce detailed lists of equipment and fabrics vant to my tasks.	l know that 3D products can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics
edni i car i car i car	I can formulate step-by-step plans and, it appropriate, allocate tasks within a team. I can select from and use a range of tools and equipment, including CAD, to make products that are	l know how to strengthen, stiffen, and reinforce fabric, for example, by using interfacing.
o acc م the o	curately assembled and well finished. Work within constraints of time, resources and cost.	Vocabulary: computer aided design (CAD), computer aided manufacture (CAM)
Eval	luating n investigate and analyse textile products linked	font, lettering, text, graphics, menu, scale, modify, repeat, copy, flip
to m I car	ny final product. n compare my final product to the original design	design brief, design criteria, design decisions, innovative, prototype
spec I car	cification. n test products with intended user, where safe	seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces
the opure	design, manufacture, functionality and fitness for cose.	names of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper
l car	can consider the views of others to improve my work	annotate, functionality, innovation, authentic,
Tech I car mac	hnical knowledge and understanding n understand that 3-D textile product can be de from a combination of accurately made tern pieces, fabric shapes and different fabrics	user, polpose, evaluare, mock-op, prototype
l car whe	n strengthened, stiffened and reinforced fabric ere appropriate.	
Greater	I can critically evaluate existing products based between my ownexperiences of products to hel	on the intended user and make connections p me generate ideas.
Depth In	I can select my own materials or techniques and explain why I have used certain materials or techniques when making a product.	
addition to age	I can use age expected practical skills in a more refined or independent way.	
expected	I can critically evaluate my own product during on the intended user.	and at the end of the design process based