



St Paul's Design and Technology curriculum

Intent

Our DT curriculum is coherent, planned, sequenced, progressive, challenging, relevant to our context and meets the requirements of the National Curriculum from EYFS to year 6.

Our inclusive curriculum promotes equity and celebrates diversity, it is designed to respect the rights and dignity of every child enabling all children to reach their potential in a communication friendly environment.

Our Design & Technology curriculum is designed to meet the context of our school. It equips our children with the knowledge, skills and attitude to master their learning and be confident learners now and for life.

Design and technology at St Paul's CE Primary School is an inspiring, enjoyable and practical subject which is taught and valued from EYFS to Year 6. Through largely cross-curricular teaching, our DT curriculum focuses on building children's subject knowledge to ensure all pupils develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, as global and enterprising citizens. We focus on building the children's ability to design, research, make and evaluate a range of products to meet the needs of themselves and a variety of users. We use these elements of DT to ensure children progress in their learning as designers and technicians and that they encounter opportunities for mastery throughout their life at St Paul's.

Our inclusive curriculum promotes a love of learning and enables all children to develop skills and knowledge that they can carry through their entire lives. We ensure that children understand and apply the principles of nutrition and learn how to cook, gain the knowledge and skills to use tools and materials, as well as develop an understanding of past and present design and technology to develop a critical understanding of its impact on daily life and the wider world.

Aims and objectives

At St Paul's, we aim for our children to be masters of their own learning in DT. In order to do this, the aims of DT at our school are:

- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- To enable children to talk about how things work, and to draw and model their ideas.
- To foster enjoyment, satisfaction and purpose in designing and making.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.

In order to meet the above aims and for children to deepen their understanding and become masters of their learning, all children should be taught to:

- 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.

Rights Respecting articles

Article 28 – you have the right to an education

Article 12 – You have the right to be heard

Article 17 – The right to reliable information

How teaching and planning is supported

- Progression document – support misconceptions and memory
- Curriculum statements – support the implementation of the coverage
- Resources on network
- Subject leader/SENDSCO – available to support planning/adaptations and CPD
- Monitoring – feedback from Subject leader and SLT to support developments

St Paul's Design and Technology Curriculum

Long term Plan

	<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
Nursery	EYFS lays the foundations for learning in the specific subject of Design and Technology through the specific area of learning: Expressive Arts and Design: Creating with Materials. Please see EYFS Curriculum and Progression/Long Term Plan documents that set out teaching and learning across the year in Nursery and Reception		
Reception			
Ks1			
Cycle 1	Structures: Buildings	Mechanisms: Sliders – Landscapes/Animals	Textiles: Sewing
Cycle 2	Cooking: Vegetable Kebab	Mechanisms: Wheels and Axels	Cooking: Food Groups/UK Food
LKS2			
Cycle 1	Textiles: Bags	Mechanisms: Moving pictures and leavers	Structures: Money Boxes
Cycle 2	Textiles: Teddy Bear Tunics	Electricals: Light Boxes	Cooking: Pancakes
UKS2			
Cycle 1	Structures: Shelters	Cooking: Crumble Microcontroller Mayan wraps	Cooking: The Maya & Chicken Itza
Cycle 2	Cooking: Bread	Textiles: Back packs	Mechanisms: Leavers and pulleys

The following pages are the medium term plans for year 1-6 – see website for EYFS progression and Long term plan

Year 1/2

Cycle 2	Unit: Cooking: Veg Kebab – My Favourite 5 a day Veg Kebab	Theme: Ourselves
Linked texts used in English where appropriate	All about me poem/I like bees, I don't like Honey Sam Bishop	
Components of unit Knowing more (essential knowledge and skills)		
	St Paul's CE	NC
Content knowledge	Can I design and make a veg kebab?	Work within an extended range of contexts, with clear purpose Label what their products are. State what products they are making and why they are doing it.
Design	Can I design a veg kebab? Can I draw and label my design using the correct terms? Can I write the simple steps of how to prepare my kebab?	Design purposeful, functional and appealing products for themselves and other users based on design criteria Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology
Make/Cook	Can I prepare 5 different vegetables for my kebab? Can I use a knife to safely chop/cut fruit? Can I use a peeler to prepare fruit?	Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of ingredients.
Evaluation	Can I evaluate which vegetable that can be found in Withington that I like and that are popular in our class? Can I investigate which vegetables are popular with families from St Paul's? Can I evaluate my veg kebab ?	Explore and evaluate a variety of existing products Evaluate their ideas and products against design criteria
Technical knowledge	Can I explain how fruits grow and were in the world you would find them? Can I explain why I should eat 5 portions a day?	Know that all food comes from plants or animals Know that everyone should eat at least 5 portions of fruit and vegetables every day. Know how to prepare simple dishes safely without using a heat source. Know how to use techniques such as cutting, grating and peeling with support.
Vocabulary (unit specific)		
Fruit, vegetables, portion, cutting/chopping, knives, peeler, cook, hygiene, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients		
Revisited components <i>Remembering more and building on knowledge</i>		
EYFS: Expressive Art and Design: Creating with Materials - Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Share their creations, explaining the process they have used; Make use of props and materials when role playing characters in narratives and stories.		

Year 1/2

Cycle 2	Unit: Mechanisms: Wheels and Axels	Theme: Journeys
Linked texts used in English where appropriate	Significant Authors – Oliver Jeffers	
Components of unit Knowing more (essential knowledge and skills)		
	St. Paul's	NC
Content knowledge	Can I design and make a vehicle using wheels and axels?	Work within an extended range of contexts with clear purpose State what products they are designing and making and why they are doing it. Label what their products are Explain simply how they will work Say how they will make them suitable linking back to purpose Use simple design criteria using technical vocabulary
Design	Can I think of ideas by looking at existing products? Can I develop ideas by talking and drawing labelled pictures? Can I describe how my product will work? Can I design a product that has a function?	Design purposeful, functional and appealing products for themselves and other users based on design criteria Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology
Make/construct	Can I make a simple vehicle using wheels and axels? Can I use a simple mechanism, e.g. wheel and axel? Can I choose the correct materials to construct my vehicle? Can I use tools safely, e.g. hammer, saw, glue gun? Can I cut different materials safely?	Select from and use a range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing Select from and use a wide range of materials and components.
Evaluation	Can I say whether my product is suitable for the purpose in which I intended it to be used?	Evaluate their ideas and products against design criteria
Technical knowledge	What is a wheel? What is an axel?	Explore and use mechanisms for example, wheels and axles, in their products
Vocabulary (unit specific)		
Axle, wheel, saw, stable, stiffer, vehicle, function, mechanism, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used		
Revisited components Remembering more and building on knowledge		
EYFS: Expressive Art and Design: Creating with Materials - Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Share their creations, explaining the process they have used; Make use of props and materials when role playing characters in narratives and stories.		

Year 1/2

Cycle 2	Unit: Cooking: Food Groups ‘The UK’s Favourite Foods’	Theme: Real Life Superheroes
Linked texts used in English where appropriate	The Disgusting Sandwich	
Components of unit Knowing more (essential knowledge and skills)		
	St. Paul’s	NC
Content knowledge	Can I evaluate popular UK foods? Do I know where food comes from? Can I talk about different food groups?	Work within an extended range of contexts with clear purpose State what products they are designing Label what their products are
Design	Can I design a St. Paul’s school dinner?	Design purposeful, functional and appealing products for themselves and other users based on design criteria Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology
Make/Cook		
Evaluation	Can I evaluate different types of food from the UK by tasting them? Can I say what I like and don’t like about different types of foods? Can I investigate which foods are popular in the UK?	Explore and evaluate a variety of existing products
Technical knowledge	Can I explain where food comes from? Can I explain what the different food groups are?	Know that all food comes from plants or animals Know that there are other food groups we should eat too
Vocabulary (unit specific)		
Nutrition, food groups, taste, recipe, fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients		
Revisited components Remembering more and building on knowledge		
EYFS: Expressive Art and Design: Creating with Materials - Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Share their creations, explaining the process they have used; Make use of props and materials when role playing characters in narratives and stories.		

Year 3/4

Cycle 1	Unit: Roman Sandals We do Lego!	Theme: The Romans
Linked texts used in English where appropriate	Gladiator boy – Non chronological report	
Components of unit Knowing more (essential knowledge and skills)		
	St Paul's	NC
Content knowledge	Can I use the terms toe cap, sole, insole, heal, tread, tongue and upper? Can I understand one way that sandals are made Do I know the features of a good Roman sandal and to use appropriate terminology?	Work confidently within a range of contexts, Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise with clear purpose Gather information about the needs and wants of particular individuals and groups Independently develop their own design criteria Independently use design criteria to inform their ideas
Design	Can I label shoes using appropriate terminology? Can I write sequential steps for the making process for my sandal? Can I explain how the different materials that I will use for my sandal will best suit the feature of the sandal? (hard wearing, stiffen, appearance) Can I understand that a designer needs to consider appearance, function, cost and safety when designing products?	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 Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross- sectional and exploded diagrams
Make/construct	Can I explain what makes a good Roman sandal and make a prototype? Can I use a pattern/template effectively make my sandal? Can I use a variety of sewing and decorating techniques on my sandal? Can I choose appropriate techniques for making sandals? Can I join the fabric parts and use decorative techniques to achieve a well-constructed and finished sandal	Order the main stages of making Select from and use tools and equipment to cut, shape, join and finish with some accuracy- Select from and use materials and according to their functional properties and aesthetic qualities
Evaluation	Can I think about how the practice of a show maker could help me in our task? Can I investigate the types of Roman sandals there were? Can I analyse what Roman sandals looked like and what features they had? Can I evaluate my design as I progress and effectively change my plan if needed? Can I evaluate my sandals critically against the design specification?	Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work Investigate and evaluate a range of existing products.
Technical knowledge	Can I distinguish between functional and decorative features of a shoe?	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Know and use technical vocabulary relevant to the project
Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.		
joining and finishing techniques, tools, components, template, pattern pieces, mark out, join, decorate, finish fabric, names of fabrics, fastening, compartment, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance		
Revisited components Remembering more and building on knowledge		
KS1 – Felt focus work Year 2 – end points 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		

Year 3/4	Cycle 2	Unit: Anglo Saxon Tunics	Theme: Anglo Saxons and Scots
	Linked texts used in English where appropriate	Folk tales – making of an Anglo Saxon Shield	
	Components of unit Knowing more (essential knowledge and skills)		
		St Pauls	NC
	Content knowledge	Can I investigate what clothes the Angles and the Saxons wore? Can I name the clothes the Anglo Saxons wore? Can I understand what a template pattern is for? Do I know the names for common stitching techniques? Can I understand the purpose of a prototype? What is a prototype? Why is a prototype useful?	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise with clear purpose Gather information about the needs and wants of particular individuals and groups Independently develop their own design criteria Independently use design criteria to inform their ideas
	Design	Can I understand what criteria I must consider in my design? Can I plan how to make my prototype? Can I plan a design for a tunic? What steps do I need to follow to make a tunic? Which materials will I use? What order will the steps take? Which stitch will be the best? Who will I turn to for help?	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 Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross- sectional and exploded diagrams
	Make/construct	Can I use a uniform running stitch threading the needle and tying the knot myself? Can I sew a simple wallet? Can I work with a group, sharing out tasks, helping each other to make a tunic using a backstitch or a cheat's backstitch? Can I join the fabric parts and use decorative techniques to achieve a well-constructed and finished tunic	Order the main stages of making Select from and use tools and equipment to cut, shape, join and finish with some accuracy Select from and use materials according to their functional properties and aesthetic qualities
	Evaluation	Can I understand how tunics are created and understand that a designer needs to consider appearance, function, cost and safety when designing products Can I evaluate my sandal critically against the design specification?	Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work Investigate and evaluate a range of existing products.
	Technical knowledge	Can I understand how a running stitch made? Can I understand how long my stitches should be? Can I understand how needles are threaded and knots tied?	Know and use technical vocabulary relevant to the project
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.		
tunic, belt, cloak, breeches, hood, brooches, cloth, woollen, skin, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance			
Revisited components Remembering more and building on knowledge			
KS1 – felt focus work Year 3/4 – cycle 1 Roman sandals Year 2 – end points 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.			

Year 3/4	Cycle 2	Unit: Making of torches	Theme: What's great about Manchester?
	Linked texts used in English where appropriate	Cotton Mill Kate Race to Freedom	
	Components of unit Knowing more (essential knowledge and skills)		
		St Paul's	NC
	Content knowledge	Can I research, design, make and evaluate a torch/reading glamp?	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise with clear purpose Gather information about the needs and wants of particular individuals and groups Independently develop their own design criteria Independently use design criteria to inform their ideas
	Design	Can I create an exploding diagram of a torch? Can I design my own casing for a torch using an exploded diagram? Can I design a torch or reading lamp that works and is aesthetically pleasing?	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 Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross- sectional and exploded diagrams
	Make/construct	Can I follow my design to make my torch /reading lamp? Can I use appropriate materials/techniques to reinforce my product? Can I work cooperatively with my partner (turn taking etc)?	Order the main stages of making Select from and use tools and equipment to cut, shape, join and finish with some accuracy Select from and use materials and components, including electrical components according to their functional properties and aesthetic qualities
	Evaluation	Can I reflect on the 'making' process and my final design deciding on strengths and areas of improvement? Can I understand why a torch is important?	Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work Investigate and evaluate a range of existing products.
	Technical knowledge	Can I label the different parts of a torch? Can I create a glossary for the different parts of a torch? Can I understand how a torch works? Can I understand what a circuit is and how a circuit works? Can I understand that certain materials may be better than others for torch casings?	Investigate and analyse a range of existing battery powered products -Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers torches Know and use technical vocabulary relevant to the project
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced. 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, control, program, system, input device, output device		
	Revisited components <i>Remembering more and building on knowledge</i>		
	Science – electricity Year 2 – end points 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		

Year 3/4	Cycle 2	Unit: Greek Salads	Theme: The Greeks
	Linked texts used in English where appropriate	Greek Myths Explanation – how is food digested? Non Chronological report – Greeks	
	Components of unit Knowing more (essential knowledge and skills)		
		St Paul's	N/C
	Content knowledge	Can I describe the foods eaten in Greece? What ingredients make a Greek salad?	Work confidently within a range of contexts, such as the home, school, Describe the purpose of their products Indicate the design features of their products that will appeal to intended users and make this a stand out design Explain how particular parts of their products work using increasingly technical vocabulary Carry out research, using surveys, interviews, questionnaires and Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health Know that recipes can be adapted to change the appearance, taste, texture and aroma
	Design	Can I design an authentic Greek Salad using my evaluation and preferences?	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
	Make/construct	Can I prepare salad ingredients? Can I use knives and chopping boards safely? Can I make a Greek Salad? (can I follow a recipe?)	Select from and use a wider range of tools and equipment to perform practical tasks Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, crushing, Independently prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
	Evaluation	Can I evaluate: ingredients that have been used in Greek Foods and if they are hot or cold/fresh or from a packet? Can I explain my personal preferences for foods and explain these? Can I evaluate different salads using appropriate vocabulary? Can I evaluate my own salad suggesting improvements?	Investigate and analyse a range of existing products Evaluate ideas and products against their own design criteria and consider the views of others to improve their work
	Technical knowledge	Can I recap safety points when working with kitchen equipment? Can I understand the importance of safety and hygiene in food preparation?	Understand how key events and individuals in design and technology have helped shape the world Know that a recipe can be created by adding or substituting one or more ingredients to make it healthier and tastier, use a recipe they have created
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.		
	Salad, vegetables, portion, cutting/chopping, knives, peeler, cook, hygiene, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, healthy, fresh, processed, personal preference, recipe, temperature, measure, balance, seasonal, varied dets, edible, grown.		
	Revisited components Remembering more and building on knowledge		
KS1 – African foods Year 2 – end points 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.			

Year 5/6	Cycle 1	Unit: Shelters – Can I design and make a prototype Anderson shelter?	Theme: Battle of Britain
	Linked texts used in English where appropriate	Blitz poems Letters from a Lighthouse	
	Components of unit Knowing more (essential knowledge and skills)		
	Skills & knowledge	Year 5/6	N/C
	Content knowledge	To investigate, research, design, evaluate and make a model of a shelter that would protect people during the Blitz.	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment Describe the purpose of their products Indicate the design features of their products that will appeal to intended users and make this a stand out design. Explain how particular parts of their products work using increasingly technical vocabulary Carry out research, using surveys, interviews, questionnaires and comment on the impact these have had on a final design Identify the needs, wants, preferences and values of particular individuals and groups. Develop a simple design specification to guide their thinking
	Design	When designing my shelter can I pick appropriate materials that match its purpose? Can I design a shelter for a particular purpose? Can I write a comprehensive list of appropriate material and process I plan to use when making my shelter? Can I use appropriate vocabulary when designing my shelter?	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
	Make/construct	Can I join and combine components to reinforce a structure using different techniques? Can I use different techniques to strengthen and reinforce different materials? Can I use precise measurements when making my shelter? Can I follow my design accurately? Can I work appropriately with a range of materials and tools when making my shelter? Can I use finishing techniques to ensure my product is as good as it can be?	Select from and use a wider range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities i.e. for their shelters
	Evaluation	Can I investigate a range of shelters? Can I understand the different purposes of shelters? Can I identify the different components of shelters? Can I identify the purpose of an Anderson shelter? Can I experiment and evaluate the best techniques to reinforce and join components for my shelter? Can I experiment and consider how the shape of materials affect strength? Can I make improvement to my shelter after accurate evaluation?	Investigate and analyse a range of existing products Evaluate ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world- Egyptian inventions
	Technical knowledge	Can I apply my knowledge from evaluation of strengthening/shape and materials when designing and building my shelter?	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.		
function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent.			
Revisited components Remembering more and building on knowledge			
Year 1/2 &3/4 both complete a shelters unit – Houses from GFL and Stone Age dwellings. End points from KS1 that have been built on in year 3/4 – use the progression documents for misconceptions and breakdown of knowledge and skills. 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.			

Year 5/6	Cycle 1 – 2 x DT units		Unit: A) Crumble Microcontroller (combined with computing programming unit)	Theme: The Maya 2x DT Units
	Linked texts used in English where appropriate		The Maya & Chichen Itza	
	Components of unit Knowing more (essential knowledge and skills)			
	Knowledge and skills	Year 5/6	N/C	
	Content knowledge	Can I use my knowledge of mechanics to design and make a fairground ride?	Explain how particular parts of their products work using increasingly technical vocabulary Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	
	Design	Can I design a fairground ride with mechanical systems?	Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	
	Make/construct	Can I make a fairground ride with mechanical systems?	Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Select from and use a wider range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately	
	Evaluation	Can I evaluate my fairground ride and have I used my knowledge of mechanics effectively?	Evaluate ideas and products against their own design criteria and consider the views of others to improve their work	
	Technical knowledge	Can I use my mechanical knowledge from computing and implement this in my design effectively?	Apply an understanding of computing to program, monitor and control products Understand and use mechanical systems in their products for example, gears, pulleys, cams, levers and linkages	
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.			
A) pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output				
Revisited components Remembering more and building on knowledge				
3/4 use knowledge of torch making to support language of some components End points from KS1 that have been built on in year 3/4 – use the progression documents for misconceptions and breakdown of knowledge and skills. 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.				

Year 5/6	Cycle 1 – 2x DT unit		Unit: B) Can I use my knowledge of Mayan food to design and make a successful Mayan Wraps?	Theme: The Maya – 2x DT unit
	Linked texts used in English where appropriate		The Maya & Chichen Itza Making Tortilla for instructions	
	Components of unit Knowing more (essential knowledge and skills)			
	Knowledge and skills	Year 5/6	N/C	
	Content knowledge Cooking and nutrition	Can I design a Maya inspired wrap?	Know that a recipe can be created by adding or substituting one or more ingredients to make it healthier and tastier, use a recipe they have created	
	Design Cooking and nutrition	Can I design a Maya inspired wrap?	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups	
	Make/construct Cooking and nutrition	Can I make a tortilla wrap fit for a Maya God?	Independently prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading, crushing, juicing- bread and tortilla wrap	
	Evaluation Cooking and nutrition	What can I find out about the balanced diet of the Maya civilisation? Do I understand the 5 food groups? Can I explain and understand what it means to have a balanced diet? Can I assess if the food consumed by the Maya would be considered balanced? Can I evaluate some traditional Mayan foods? (texture, appearance, smell, nutritional value) Can I make valid evaluation points that would improve my product (wrap)?	Know where and how a variety of ingredients are grown Understand how key events and individuals in design and technology have helped shape the world Know that recipes can be adapted to change the appearance, taste, texture and aroma Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health Evaluate ideas and products against their own design criteria and consider the views of others to improve their work Investigate and analyse a range of existing products	
	Technical knowledge	Can I hygienically work with food? Do I know the correct techniques to prepare savoury food?	Independently prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source	
	Vocabulary (unit specific) non exhaustive and use vocab document to support previous vocab introduced.			
	ingredients, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble			
	Revisited components Remembering more and building on knowledge			
	Food unit – 5/6 Bread 3/4 Greek Salads 1/2 African Foods End points from KS1 that have been built on in year 3/4 – use the progression documents for misconceptions and breakdown of knowledge and skills. 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.			

Year 5/6	Cycle 2	Unit: Bread – Can I make bread fit for a Pharaoh?	Theme: The Ancient Egyptians
	Linked texts used in English where appropriate	Secrets of a sun god Instructional writing Making of a mast of a god	
	Components of unit Knowing more (essential knowledge and skills)		
	Skills and knowledge	Year 5/6	N/C
	Content knowledge	Can I research, design, make and evaluate bread fit for a Pharaoh? Can I describe the characteristics of yeast and how this is useful to the bread making process? Why was the diet of the Ancient Egyptians as it was?	Work confidently within a range of contexts, such as the home, school, Describe the purpose of their products Indicate the design features of their products that will appeal to intended users and make this a stand out design Explain how particular parts of their products work using increasingly technical vocabulary Carry out research, using surveys, interviews, questionnaires and Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health Know that recipes can be adapted to change the appearance, taste, texture and aroma
	Cooking and nutrition		
	Design	Can I research the diet of the Ancient Egyptians? Can I design a bread based on my knowledge of ingredients? Can I compose a set of instructions on how to make a loaf of bread?	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes,
	Cooking and nutrition		
	Make/construct	Can I sieve flour and knead bread and explain the roles of the techniques in the bread making process? Can I use a variety of cooking tools safely and correctly? Can I follow instructions in a logical order? Can I explain the importance of hygiene when working with food? Can I Produce a loaf of bread by using tools and techniques correctly? Can I work hygienically when preparing food?	Select from and use a wider range of tools and equipment to perform practical tasks Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading, crushing, juicing Independently prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
	Cooking and nutrition		
	Evaluation	Can I evaluate my first attempt of making bread and make improvements in my design so that my final piece is the best it can be?	Investigate and analyse a range of existing products Evaluate ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world Know that a recipe can be created by adding or substituting one or more ingredients to make it healthier and tastier, use a recipe they have created
	Cooking and nutrition		
	Technical knowledge	Can I learn and use the correct techniques used for making bread?	See making
	Cooking and nutrition		
Vocabulary (unit specific) – non exhaustive and use vocab document to support previous vocab introduced.			
ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, sieve, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble			
Revisited components <i>Remembering more and building on knowledge</i>			
KS1 – African themed foods Year 3/4 – Greek Salads Year 5/6 cyle 1 – Mayan wraps End points from KS1 that have been built on in year 3/4 – use the progression documents for misconceptions and breakdown of knowledge and skills. 1. Design purposeful, functional and appealing products for themselves and other users based on design criteria 2. Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, use information and communication technology 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 5. Explore and evaluate a variety of existing products 6. Evaluate their ideas and products against design criteria 7. Build structures, exploring how they can be made stronger, stiffer and more stable 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.			

