Mill Lane Primary School

Design and Technology

EYFS		
Progression of learning		
Prior Knowledge Children may have experience of helping their parents to select foods at the supermarket to make simple dishes at home. They may have played with construction materials or completed junk modelling tasks. They may have play dough or modelling clay that they use to tools to model with.	**Knowledge taught in EYFS** Children in EYFS will sing songs, make music and dance, and experiment with ways of changing them. They will safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children will use what they have learnt about media and materials in original ways, thinking about uses and purposes. They will represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Children will recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Children will learn the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.	**Future knowledge** Children in KS1 will design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. They will select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). They will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will explore and evaluate a range of existing products; and their ideas and products against design criteria. They will apply their understanding of how to strengthen, stiffen and reinforce more complex structures and understand and use mechanical systems in their products. They will use the basic principles of a healthy and varied diet to prepare dishes and understand where food comes from.
National Curriculum Coverage		
Autumn	**Spring**	**Summer**
Nursery **Physical Development** Manipulates a range of tools and equipment in one hand, tools include paintbrushes, hairbrushes, toothbrush, scarves or ribbons. Use hands to manipulate a range of malleable materials. **Expressive Arts and Design** **Being imaginative & Expressive** Creating with Materials ***Reception*** **Physical Development** Uses simple tools to effect changes to materials. **Expressive Arts and Design** **Being Imaginative**	***Nursery*** **Physical Development** Begins to hold scissors to make snips in paper. Begin to develop a pincer grip through a range of multisensory activities. **Expressive Arts and Design** **Creating with Materials** Uses tools for a purpose e.g glue spreader, scissors, hammer Uses various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces ***Reception*** **Physical Development**	***Nursery*** **Physical Development** Uses simple tools to effect changes to materials **Expressive Arts and Design** **Being imaginative & Expressive** Uses available resources to create props or creates imaginary ones to support play. **Creating with Materials** Develops an understanding of using lines to enclose a space, and begins to use drawing to represent actions and objects based on imagination, observation and experience Develops an understanding of how to create and use sounds intentionally

Creates representations of both imaginary and real-life ideas, events, people and objects e.g makes a junk model of a fire engine, paints an imaginary monster, creates a playdough model of a flower. **Creating with materials:** Continues to explore colour and how colours can be changed	Uses a pencil and holds it effectively to form recognisable letters. Applies sufficient pressure to a pencil to draw and write effectively. **Expressive Arts and Design** **Being imaginative** Chooses particular movements, instruments/sounds, colours and materials for their own imaginative purposes Responds imaginatively to art works and objects, e.g. this music sounds likes dinosaurs, that sculpture is squishy like this [child physically demonstrates], that peg looks like a mouth **Creating with materials:** Develops their own ideas through experimentation with diverse materials, e.g. light, projected image, loose parts, watercolours, powder paint, to express and communicate their discoveries and understanding.	***Reception*** **Physical Development** Shows increasing control over an object in pushing, patting, throwing, catching or kicking it Handles tools, objects, construction and malleable materials safely and with increasing control and intention. **Expressive Arts and Design** **Being imaginative** Uses combinations of art forms, e.g. moving and singing, making and dramatic play, drawing and talking, constructing and mapping **Creating with materials:** Expresses and communicates working theories, feelings and understandings using a range of art forms, e.g. movement, dance, drama, music and the visual arts Uses their increasing knowledge and understanding of tools and materials to explore their interests and enquiries and develop their thinking

Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**

Key Vocabulary							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
Picture, drawing, use	Experiment, change, tools, materials, use	Materials, use, idea, improve	technology, tape, record, video, photograph, computer			food, meal, snack, healthy, diet	

Skills							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
*Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design * Use contexts set by the teacher and myself *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools and techniques to shape, assemble and join *Replicate structures with materials / components	*Adapt work if necessary *Dismantle, examine, talk about existing objects/structures *Consider and manage some risks *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences between				*Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending *Discuss how to make an activity safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well	

	*Discuss how to make an activity safe and hygienic *Record experiences by drawing, writing, voice recording *Understand different media can be combined for a purpose	existing objects / materials / tools *Show an interest in technological toys *Describe textures				contributes to good health	

Year 1

Progression of learning

Prior Knowledge	**Knowledge taught in Year 1**	**Future knowledge**
Children in EYFS sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Children learn the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.	In Year 1, a range of opportunities and experiences are provided to ensure that all pupils: • With some support, begin to explore and use simple mechanisms. For example, use sliders in moving pictures, hinges into models etc through a close study of transport and bridges. • Use pictures and words to describe what they want to do. • Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing. • Use a range of simple tools to cut, join and combine materials. • Ask simple questions about existing products and those that he/she has made. • Build structures, exploring how they can be made stronger, stiffer and more stable. • Use wheels and axles in a product. • Begin to build structures, joining components together to create a finished product. • Begin to understand that all food comes from plants or animals and make links to their scientific learning. • Begin to develop children's peeling and chopping skills. • Talk about what he/she eats at home and begin to discuss what healthy foods are. • Say where some food comes from and give examples of food that is grown. • Use simple tools with help to prepare food safely.	A range of opportunities and experiences are provided in Y2 to ensure that all pupils: • learn how to cut out shapes which have been created by drawing round a template onto the fabric. • begin to sew using a range of basic stitches. • with some independence, explore and use winding mechanisms. • begin to incorporate wheels and axles into their products. • begin to build structures with some independence exploring how they can be made stronger, stiffer and more stable. • Design purposeful, appealing products for himself/herself and other users based on design criteria. • Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • Choose appropriate tools, equipment, techniques and materials from a wide range. • Safely measure, mark out, cut and shape materials and components using a range of tools. • Evaluate and assess existing products and those that he/she has made using a design criteria. • Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Explore and use mechanisms e.g. levers, sliders, wheels and axles in his/her products.

National Curriculum Coverage

Autumn	**Spring**	**Summer**
Curriculum driver - history Trains Shildon Train Museum Train journey to Middlesbrough	*Curriculum driver - geography* Forests and Parks North York Moors (Wilderness Trail) Book: The Disgusting Sandwich	*Curriculum driver - geography* The River Tees Teesside Princess and Preston Park.

Design a mode of transport to carry 4 people. • generate, develop, model and communicate their ideas through talking, drawing, templates • select from and use a wide range of materials and components, including construction materials, according to their characteristics • explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	Food Technology – design a sandwich for the picnic in our local park • explore and evaluate a range of existing products • design purposeful, functional, appealing products for themselves and other users based on design criteria • select from and use a wide range of materials and components, ingredients, according to their characteristics	Design a bridge to cross the river Tees • design purposeful, functional, appealing products for themselves and other users based on design criteria

Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**
Transport, Railway Station, Platform, Vehicles, Carriages Harbour, Marina, Moorings, Conductor, Compare, Contrast		Dorman Long, Transporter Bridge, Newport Bridge, Millennium Bridge, Tees Barrage

Key Vocabulary							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
planning, investigating design, evaluate, make, user, purpose, ideas, product,			cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder	slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards		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,	

Skills							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
* have own ideas * explain what I want to do *explain what my product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for myself following design criteria	*explain what I'm making and why *consider what I need to do next *select tools/equipment to cut, shape, join, finish and explain choices *measure, mark out, cut and shape, with support	*talk about my work, linking it to what I was asked to do * talk about existing products considering: use, materials, how they work, audience, where they might be used *talk about existing products, and say what is and isn't good	*begin to measure and join materials, with some support *describe differences in materials *suggest ways to make material/product stronger	*begin to use levers or slides		*describe textures *wash hands and clean surfaces *think of interesting ways to decorate food *say where some foods come from, (i.e. plant or animal) *describe differences between some food groups (i.e. sweet, vegetable etc.)	

*research similar existing products	*choose suitable materials and explain choices *try to use finishing techniques to make product look good *work in a safe and hygienic manner	* talk about things that other people have made *begin to talk about what could make product better				*discuss how fruit and vegetables are healthy *cut, peel and grate safely, with support *explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet	

Year 2

Progression of learning

Prior knowledge	Knowledge taught in Year 2	Future knowledge
In Year 1, a range of opportunities and experiences are provided to ensure that all pupils: • With some support, begin to explore and use simple mechanisms. For example, use sliders in moving pictures, hinges into models etc through a close study of transport and bridges. • Use pictures and words to describe what they want to do. • Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing. • Use a range of simple tools to cut, join and combine materials. • Ask simple questions about existing products and those that he/she has made. • Build structures, exploring how they can be made stronger, stiffer and more stable. • Use wheels and axles in a product. • Begin to build structures, joining components together to create a finished product. • Begin to understand that all food comes from plants or animals and make links to their scientific learning. • Begin to develop children's peeling and chopping skills. • Talk about what he/she eats at home and begin to discuss what healthy foods are. • Say where some food comes from and give examples of food that is grown. • Use simple tools with help to prepare food safely.	A range of opportunities and experiences are provided in Y2 to ensure that all pupils: • learn how to cut out shapes which have been created by drawing round a template onto the fabric. • begin to sew using a range of basic stitches. • with some independence, explore and use winding mechanisms. • begin to incorporate wheels and axles into their products. • begin to build structures with some independence exploring how they can be made stronger, stiffer and more stable. • Design purposeful, appealing products for himself/herself and other users based on design criteria. • Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • Choose appropriate tools, equipment, techniques and materials from a wide range. • Safely measure, mark out, cut and shape materials and components using a range of tools. • Evaluate and assess existing products and those that he/she has made using a design criteria. • Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Explore and use mechanisms e.g. levers, sliders, wheels and axles in his/her products.	A range of opportunities and experiences are provided in Y3 to ensure that all pupils: • Begin to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • Be able to use a range of techniques such as peeling, chopping, slicing and grating. • Talk about the different food groups and name food from each group. • Understand that food has to be grown, farmed or caught in Europe and the wider world. • Use a wider variety of ingredients and techniques to prepare and combine ingredients safely. • Use knowledge of existing products to design his/her own functional product. • Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes. • Safely measure, mark out, cut, assemble and join with some accuracy. • Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them. • Investigate and analyse existing products and those he/she has made, considering a wide range of factors. • Strengthen frames using diagonal struts. • Understand how mechanical systems such as levers and linkages or pneumatic systems create movement.

National Curriculum Coverage

Autumn	Spring	Summer
Curriculum driver - history Castles Durham Castle	*Curriculum driver - geography* Our Landscapes Ropner Park	*Curriculum driver - history* Exploring (Captain Cook, Galapagos and HMS Trincamolee)

Build castle walls and drawbridges • build structures, exploring how they can be made stronger, stiffer and more stable (drawbridges and castle walls) • explore and use mechanisms [for example, levers, sliders], in their products.	Design and build a blind for the classroom window • explore and use mechanisms [for example, wheels and axles], in their products. • select from and use a wide range of materials and components, including textiles according to their characteristics	Design and build a lighthouse • explore and evaluate a range of existing products • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • 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, including construction materials, according to their characteristics • evaluate their ideas and products against design criteria • build structures, exploring how they can be made stronger, stiffer and more stable

Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**
<u>Castles</u> Castle, arrow loop, barbican, battlements, drawbridge, moat, tower, portcullis, motte, bailey, keep	<u>Ship Building (Robert Ropner)</u> 'rich' poor' 'local' 'national' 'important' 'significant' 'primary source' 'impact' 'explorer' 'pioneer'	Mast, crow's nest, rigging, bow, sails, hull, compass, navigation, conquered, discovered, claimed, ruled, expeditions, Endeavor, Captain Cook, Robert Ropner, warship, cannons, musket

Key Vocabulary							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function			cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder	vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used	joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish		

Skills							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
* have own ideas and plan what to do next * explain what I want to do and describe how I may do it * explain purpose of product, how it will	*explain what I am making and why it fits the purpose *make suggestions as to what I need to do next. *join materials/components	* describe what went well, thinking about design criteria * talk about existing products considering: use, materials, how they work, audience, where they might be	*measure materials *describe some different characteristics of materials *join materials in different ways	*use levers or slides *begin to understand how to use wheels and axles	*measure textiles *join textiles together to make a product, and explain how I did it *carefully cut textiles to produce accurate pieces		

work and how it will be suitable for the user * describe design using pictures, words, models, diagrams, begin to use computing * design products for myself and others following design criteria * choose best tools and materials, and explain choices * use knowledge of existing products to produce ideas	together in different ways *measure, mark out, cut and shape materials and components, with support. *describe which tools I'm using and why *choose suitable materials and explain choices depending on characteristics. *use finishing techniques to make product look good *work safely and hygienically	used; express personal opinion *evaluate how good existing products are *talk about what I would do differently if I were to do it again and why	*use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger		*explain choices of textile *understand that a 3D textile structure can be made from two identical fabric shapes.		

Year 3

Progression of learning

Prior Knowledge	**Knowledge taught in Year 3**	**Future knowledge**
A range of opportunities and experiences are provided in Y2 to ensure that all pupils: • learn how to cut out shapes which have been created by drawing round a template onto the fabric. • begin to sew using a range of basic stitches. • with some independence, explore and use winding mechanisms. • begin to incorporate wheels and axles into their products. • begin to build structures with some independence exploring how they can be made stronger, stiffer and more stable. • Design purposeful, appealing products for himself/herself and other users based on design criteria. • Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • Choose appropriate tools, equipment, techniques and materials from a wide range. • Safely measure, mark out, cut and shape materials and components using a range of tools. • Evaluate and assess existing products and those that he/she has made using a design criteria. • Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Explore and use mechanisms e.g. levers, sliders, wheels and axles in his/her products.	A range of opportunities and experiences are provided in Y3 to ensure that all pupils: • Begin to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • Be able to use a range of techniques such as peeling, chopping, slicing and grating. • Talk about the different food groups and name food from each group. • Understand that food has to be grown, farmed or caught in Europe and the wider world. • Use a wider variety of ingredients and techniques to prepare and combine ingredients safely. • Use knowledge of existing products to design his/her own functional product. • Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes. • Safely measure, mark out, cut, assemble and join with some accuracy. • Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them. • Investigate and analyse existing products and those he/she has made, considering a wide range of factors. • Strengthen frames using diagonal struts.	A range of opportunities and experiences are provided in Y4 to ensure that all pupils: • Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. • Understand seasonality and the advantages of eating seasonal and locally produced food. • Read and follow recipes which involve several processes, skills and techniques. • Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. • Create designs using exploded diagrams. • Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks. • Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user. • Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas. • Understand and use electrical systems in products.

	• Understand how mechanical systems such as levers and linkages or pneumatic systems create movement.	

National Curriculum Coverage		
Autumn *Curriculum driver - history* Stone Age to Iron Age Cleveland Ironstone Mining Museum, Skinningrove	**Spring** *Curriculum driver - geography* Mapping	**Summer** *Curriculum driver - history* Romans Arbeia Roman Fort, Northumberland
Making spears **Make** • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **Evaluate** • investigate and analyse a range of existing products • evaluate their 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	Maps **Design** • generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, and computer-aided design • apply their understanding of computing to program and create a generated map of the North York Moors and the local area.	**Cooking and nutrition** Follow a recipe for the staple food of a poor Roman family. • understand and apply the principles of a healthy and varied diet

Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**
<u>Stone Age to Iron Age</u> Archaeologists, Artefact, Neolithic, B.C., Chronology, Tribal, Hunter-gatherers, Shelter, Civilization, Settlement, Hill forts, Skara Brae, Prey, 'hunter-gatherer' 'impact' 'significant' 'continuity' 'change' 'warrior' 'prehistoric' 'artefact' 'BC/AD', 'growth' 'population' 'industrialisation' 'ironstone' <u>How did the lives of ancient Briton</u> <u>change during the Stone Age?</u> Stone Age, cave, cave man, misconception, chronological, time, extinct, remains continuity, change, communication, Old Stone Age, Palaeolithic, New Stone Age, Neolithic, Stonehenge, summer camp, winter camp, ceremonial, burial, life expectancy, illness, injury, fighting.	Continued from autumn term with a geographical focus.	<u>Romans</u> Rome, Roman, Roman Empire, emperor, empress, invasion, manufacture, weapons, armour; ships, gold, silver, jewellery; Emperor Claudius, Emperor Augustus Caesar, civilisation; advanced, Celts, tribe, Hadrian, warrior, Calgacus, Julius Agricola, attack, gladiator, mural, mosaic, senator; nobleman, consul, Colosseum, magistrate, compelling, testimonial, social class <u>How do we know so much about</u> <u>where Sappho used to live?</u> Fresco; stylus; student; accountant; book keeper; city; country; Italy; recreation; trader; sailor; merchant; Roman; holiday; slave; Mediterranean Sea; business; shop; prosperous; manufacturing; ship; empire; emperor; army; rebellion; order; disorder; anno domini; volcano; crater; eruption; lava; earthquake; ash; explosion; Earth's crust; gas; escape; landscape;

Key Vocabulary							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing			shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex,	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output		name of products, names of equipment, utensils, techniques and ingredients	fault, connection, toggle, control, program, system, input device, output device

			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	linear, rotary, oscillating, reciprocating		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	
Skills							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
*begin to research others' needs * show design meets a range of requirements * describe purpose of product * follow a given design criteria * have at least one idea about how to create product * create a plan which shows order, equipment and tools *describe design using an accurately labelled sketch and words * make design decisions *explain how product will work * make a prototype * begin to use computers to show design	*select suitable tools/equipment, explain choices; begin to use them accurately * select appropriate materials, fit for purpose. * work through plan in order *consider how good product will be * begin to measure, mark out, cut and shape materials/components with some accuracy * begin to assemble, join and combine materials and components with some accuracy * begin to apply a range of finishing techniques with some accuracy	* look at design criteria while designing and making *use design criteria to evaluate finished product * say what I would change to make design better *begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose * begin to understand by whom, when and where products were designed * learn about some inventors/designers/ engineers/chefs/ manufacturers of groundbreaking products	*use appropriate materials *work accurately to make cuts and holes * join materials *begin to make strong structures	*select appropriate tools / techniques *alter product after checking, to make it better *begin to try new/different ideas		*carefully select ingredients *use equipment safely *make product look attractive *think about how to grow plants to use in cooking *begin to understand food comes from UK and wider world *describe how healthy diet= variety/balance of food/drinks *explain how food and drink are needed for active/healthy bodies. *prepare and cook some dishes safely and hygienically *grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	*learn about how to program a computer to control product.
Year 4							
Progression of learning							
Prior Knowledge			**Knowledge taught in Year 4**			**Future knowledge**	

A range of opportunities and experiences are provided in Y3 to ensure that all pupils: • Begin to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • Be able to use a range of techniques such as peeling, chopping, slicing and grating. • Talk about the different food groups and name food from each group. • Understand that food has to be grown, farmed or caught in Europe and the wider world. • Use a wider variety of ingredients and techniques to prepare and combine ingredients safely. • Use knowledge of existing products to design his/her own functional product. • Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes. • Safely measure, mark out, cut, assemble and join with some accuracy. • Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them. • Investigate and analyse existing products and those he/she has made, considering a wide range of factors. • Strengthen frames using diagonal struts. • Understand how mechanical systems such as levers and linkages or pneumatic systems create movement.	A range of opportunities and experiences are provided in Y4 to ensure that all pupils: • Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. • Understand seasonality and the advantages of eating seasonal and locally produced food. • Read and follow recipes which involve several processes, skills and techniques. • Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. • Create designs using exploded diagrams. • Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks. • Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user. • Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas. • Understand and use electrical systems in products.	A range of opportunities and experiences are provided in Y5 to ensure that all pupils: • Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat. • Select appropriate ingredients and use a wide range of techniques to combine them. • Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product. • Create products using pattern pieces and demonstrate an awareness of seam allowance. • Begin to understand how mechanical systems such as cams create movement. • Design and make a product that incorporates a cam mechanism. • Build innovative, functional, appealing, structures that are fit for purpose. • Evidence how products can be made stronger and more stable. • Use finishing techniques to strengthen and improve the appearance of their models.
National Curriculum Coverage		
Autumn *Curriculum driver - history* Anglo Saxons	**Spring** *Curriculum driver - geography* Our Planet	**Summer** *Curriculum driver - history* History of the River Tees
• Create an Anglo-Saxon helmet using mixed media including textiles • Use research and develop design criteria to create a functional product that is fit for purpose. • Use a wider range of materials and components including construction materials.	**Cooking and nutrition** Farm to Fork – what can be grown locally? Farming association, supermarket links. • understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	• Modroc river landscapes with bridges • Understand and use mechanical systems in their products – gears, pulleys and levers • Select from and use a wider range of materials and components according to their functional properties.
Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**
Account, Afterlife, Angle, Artefact, Attack, Britannia, Chieftain, Charm, Conquer, Custom, Defend, Deity, Germanic, Indigenous, Invader, Kingdom, Legend, Monk, Plunder, Raiders, Scholar, Settlement, Territory, Traders, Anglo-Saxon, Arthurian, Battleaxe, Dark ages, Jute, Longhouse, Middles ages, Offa's Dyke, Roman Empire, Runestone, Saxon, Saxon shore fort, Seax, Skald, Thegn's great hall, Viking	Refer back to Roman Empire vocabulary whilst studying geographical features of volcanoes (for example Pompeii) using comparison vocabulary to compare historical eruptions with modern day volcanic activity.	Affluent, Boarding school, Butler, Coal, Crime, Descendent, Domestic, Factory, Footman, Invention, Limerick, Maid, Mill, Mine, Pick pocket, Poverty, Prime minister, Prince Albert, Punishment, Queen, Slum, Social reformer, Steam power, Industrial Revolution, Posser, Suffragette, The Great Expedition, Victorian, Washboard, William Morris, Workhouse

Key Vocabulary							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations			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	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating	fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance	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 Science link	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 Science link
Skills							
Design	**Make**	**Evaluate**	**Technical knowledge – Materials /structures**	**Technical knowledge - Mechanisms**	**Technical knowledge - Textiles**	**Technical knowledge – Food and nutrition**	**Technical knowledge – Electrical systems**
* use research for design ideas * show design meets a range of requirements and is fit for purpose *begin to create own design criteria *have at least one idea about how to create product and suggest improvements for design. * produce a plan and explain it to others *say how realistic plan is. *include an annotated sketch *make and explain design decisions considering availability of resources *explain how product will work	* select suitable tools and equipment, explain choices in relation to required techniques and use accurately *select appropriate materials, fit for purpose; explain choices * work through plan in order. * realise if product is going to be good quality * measure, mark out, cut and shape materials/components with some accuracy *assemble, join and combine materials and components with some accuracy	*refer to design criteria while designing and making *use criteria to evaluate product * begin to explain how I could improve original design *evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose * discuss by whom, when and where products were designed * research whether products can be recycled or reused * know about some inventors/designers/	*measure carefully to avoid mistakes *attempt to make product strong *continue working on product even if original didn't work *make a strong, stiff structure	*select most appropriate tools / techniques *explain alterations to product after checking it *grow in confidence about trying new / different ideas. *use levers and linkages to create movement *use pneumatics to create movement	*think about user when choosing textiles *think about how to make product strong * begin to devise a template *explain how to join things in a different way *understand that a simple fabric shape can be used to make a 3D textiles project	*explain how to be safe/hygienic *think about presenting product in interesting/ attractive ways *understand ingredients can be fresh, pre-cooked or processed *begin to understand about food being grown, reared or caught in the UK or wider world *describe eat well plate and how a healthy diet=variety / balance of food and drinks *explain importance of food and drink for active, healthy bodies	*use number of components in circuit *program a computer to control product Science link

* make a prototype *begin to use computers to show design.	*apply a range of finishing techniques with some accuracy	engineers/chefs/manufacturers of ground-breaking products				*prepare and cook some dishes safely and hygienically *use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Science link	

Year 5

Progression of learning

Prior Knowledge

A range of opportunities and experiences are provided in Y4 to ensure that all pupils:

- Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active.
- Understand seasonality and the advantages of eating seasonal and locally produced food. • Read and follow recipes which involve several processes, skills and techniques.
- Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.
- Create designs using exploded diagrams.
- Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks.
- Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user.
- Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas.
- Understand and use electrical systems in products.

Knowledge taught in Year 5

A range of opportunities and experiences are provided in Y5 to ensure that all pupils:

- Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat.
- Select appropriate ingredients and use a wide range of techniques to combine them.
- Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product.
- Create products using pattern pieces and demonstrate an awareness of seam allowance.
- Begin to understand how mechanical systems such as cams create movement.
- Design and make a product that incorporates a cam mechanism.
- Build innovative, functional, appealing, structures that are fit for purpose.
- Evidence how products can be made stronger and more stable.
- Use finishing techniques to strengthen and improve the appearance of their models.

Future knowledge

A range of opportunities and experiences are provided in Y6 to ensure that all pupils:

- Confidently plan a series of healthy meals based on the principles of a healthy and varied diet.
- Use information on food labels to inform choices.
- Research plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills.
- Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products.
- Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
- Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities.
- Use technical knowledge accurate skills to problem solve during the making process.
- Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made.
- Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.
- Apply his/her understanding of computing to program, monitor and control his/her product.

National Curriculum Coverage

Autumn

Curriculum driver - history

Ancient Greece
Greek Food

Spring

Curriculum driver - geography

Industry: Preston Park, Beamish or Transporter Bridge

Summer

Curriculum driver - history

Egypt
Hancock Museum, Durham University Specialist visitor, Dorman Museum

• Design a Greek food menu to prepare • Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.	• Moving transporter bridge models (lego / meccano construction) • Understand and use mechanical systems in their products • Understand and use electrical systems in their products.	• Making a Shaduf • Apply their understand of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products (gears and pulleys)

Topic Specific Vocabulary

Autumn	Spring	Summer
<u>Ancient Greece</u> acropolis, polis, phalanx, classical age, democracy, civilisation, empire, legacies, citizens, aristocrats, mythology, <u>The story of the Trojan Horse: historical fact, legend or classical myth?</u> The Trojan Horse, Ancient, Greece, historians, authentic, Europe, Greece, Paris of Troy, Queen Helen of Sparta, King Menelaus of Sparta, King Agamemnon of Mycenae Trojan War, Aegean Sea, fact, legend, King Arthur, Robin Hood, Kingdom of Atlantis, siege tower, archers, wheeled, reconstruction, Syria, mutiny.	Transporter Bridge, industry, industrial	Afterlife, Apprentice, Curse, Deity, Embalmer, Eternal life, Linen, Ointment, Preserve, Ritual, River Nile, Scribe, Tomb, Underworld, Amulet, Book of the dead, Canopic jar, Cartouche, Egyptologist, Giza, Hieroglyphics, Mummy, Mummification, Natron, Nemes, Pharaoh, Pyramid, Rosetta Stone, Sarcophagus, Sphinx, Tutankhamun, Valley of the Kings, Wedjat, delta

Key Vocabulary

Design	Make	Evaluate	Technical knowledge – Materials /structures	Technical knowledge - Mechanisms	Technical knowledge - Textiles	Technical knowledge – Food and nutrition	Technical knowledge – Electrical systems
design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype			frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent	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		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, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit

Skills

Design	Make	Evaluate	Technical knowledge – Materials /structures	Technical knowledge - Mechanisms	Technical knowledge - Textiles	Technical knowledge – Food and nutrition	Technical knowledge – Electrical systems
*use internet and questionnaires for research and design ideas	* use selected tools/equipment with good level of precision * produce suitable	*evaluate quality of design while designing and making	*select materials carefully, considering intended use of	*refine product after testing		*explain how to be safe / hygienic and follow own guidelines	*incorporate switch into product *confidently use

*take a user's view into account when designing * begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose *create own design criteria * have a range of ideas *produce a logical, realistic plan and explain it to others. *use cross-sectional planning and annotated sketches * make design decisions considering time and resources. *clearly explain how parts of product will work. *model and refine design ideas by making prototypes and using pattern pieces. *use computer-aided designs	lists of tools, equipment/materials needed *select appropriate materials, fit for purpose; explain choices, considering functionality * create and follow detailed stepby-step plan * explain how product will appeal to an audience * mainly accurately measure, mark out, cut and shape materials/components *mainly accurately assemble, join and combine materials/components * mainly accurately apply a range of finishing techniques * use techniques that involve a small number of steps * begin to be resourceful with practical problems	*evaluate ideas and finished product against specification, considering purpose and appearance. *test and evaluate final product * evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose * begin to evaluate how much products cost to make and how innovative they are *research how sustainable materials are *talk about some key inventors/designers/ engineers/ chefs/manufacturers of groundbreaking products	product and appearance *explain how product meets design criteria *measure accurately enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D frame	*grow in confidence about trying new / different ideas *begin to use cams, pulleys or gears to create movement		*present product well - interesting, attractive, fit for purpose *begin to understand seasonality of foods *understand food can be grown, reared or caught in the UK and the wider world *describe how recipes can be adapted to change appearance, taste, texture, aroma *explain how there are different substances in food / drink needed for health *prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source * use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	number of components in circuit *begin to be able to program a computer to monitor changes in environment and control product

Year 6

Progression of learning

Prior Knowledge	**Knowledge taught in Year 6**	**Future knowledge**
A range of opportunities and experiences are provided in Y5 to ensure that all pupils: • Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat. • Select appropriate ingredients and use a wide range of techniques to combine them. • Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product. • Create products using pattern pieces and demonstrate an awareness of seam allowance.	A range of opportunities and experiences are provided in Y6 to ensure that all pupils: • Confidently plan a series of healthy meals based on the principles of a healthy and varied diet. • Use information on food labels to inform choices. • Research plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills. • Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products. • Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and	

• Begin to understand how mechanical systems such as cams create movement. • Design and make a product that incorporates a cam mechanism. • Build innovative, functional, appealing, structures that are fit for purpose. • Evidence how products can be made stronger and more stable. • Use finishing techniques to strengthen and improve the appearance of their models.	exploded diagrams, prototypes, pattern pieces and computer-aided design. • Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities. • Use technical knowledge accurate skills to problem solve during the making process. • Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made. • Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately. • Apply his/her understanding of computing to program, monitor and control his/her product.	
National Curriculum Coverage		
Autumn *Curriculum driver - history* Mayan Civilisation York Chocolate Story	**Spring** *Curriculum driver - geography* The Poles	**Summer** *Curriculum driver - history* The World Wars Eden Camp
Food Technology: Read a range of recipes for traditional and contemporary Mexican fruit drinks and choose one to make. Make a shopping list for the ingredients needed. Write their own instructions and then follow them to make fruit punches. Work with an adult to follow recipes and cook a range of savoury Mexican dishes. Find out about the Maya chocolate making process and then make their own chocolate. Follow an online recipe to make either solid chocolate or the more authentic Maya version which was a thick spicy drinking chocolate. Taste foods enjoyed and in some cases introduced to the world by the ancient Maya civilisation. Consider whether the Maya diet was healthy and explain why.	**Textiles**: Warm clothing/shelters	**Design/Make/Evaluate:** Use a range of materials to construct a structurally sound, miniature Anderson shelter **Food Technology:** Find and make popular wartime foods, planting some of their own vegetables and fruit bushes to grow on the 'home front'.
Topic Specific Vocabulary		
Autumn	**Spring**	**Summer**
Maya, Mexico, Central America, region, Colombia, Panama City, Costa Rica, San José, Nicaragua, Managua, Honduras, Tegucigalpa, plantation, hieroglyphics, memorial, accident, discover, Chichen Itza, religious, rituals, festivals, constellation, summer malnourished, starvation, ownership, war, capture, Toltec, slaves, famine, deforestation.	Explorer, expedition, continent, ocean, North Pole, South Pole, Antarctica, Mount Everest, summit, polar, United Kingdom, Himalayas, spirit, bravery, persistence, resilience, patience, determination, pioneer, aviator, occupation, equality, 'women's work', inhabitants, native, indigenous, emotions, commercial, rocket, aircraft, NASA, astronaut, lunar, mankind, mission.	Overthrow, occupation, anti-Semitism, republic, citizen, state, unemployment, debt, dictator, pact, natural resources, fascism, invasion, nationalism, authoritarian government, air force, interception, radar, payload, mobilisation, squadron

Ancient, Civiliasation, Desert, Day of the Dead (Dia de los Muertos), Maya Deity, Maya glyphs, Maya Stelae, Maya Temple		

Key Vocabulary

Design	Make	Evaluate	Technical knowledge – Materials /structures	Technical knowledge - Mechanisms	Technical knowledge - Textiles	Technical knowledge – Food and nutrition	Technical knowledge – Electrical systems
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	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	seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings,	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, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit Science link

Skills

Design	Make	Evaluate	Technical knowledge – Materials /structures	Technical knowledge - Mechanisms	Technical knowledge - Textiles	Technical knowledge – Food and nutrition	Technical knowledge – Electrical systems
* draw on market research to inform design * use research of user's individual needs, wants, requirements for design * identify features of design that will appeal to the intended user * create own design criteria and specification * come up with innovative design ideas *follow and refine a logical plan. *use annotated sketches, crosssectional planning	* use selected tools and equipment precisely *produce suitable lists of tools, equipment, materials needed, considering constraints * select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics * create, follow, and adapt detailed step-by-step plans *explain how product will appeal to audience;	*evaluate quality of design while designing and making; is it fit for purpose? * keep checking design is best it can be. *evaluate ideas and finished product against specification, stating if it's fit for purpose *test and evaluate final product; explain what would improve it and the effect different resources may have had *do thorough evaluations of existing products considering:	*select materials carefully, considering intended use of the product, the aesthetics and functionality. *explain how product meets design criteria * reinforce and strengthen a 3D frame	*refine product after testing, considering aesthetics, functionality and purpose *incorporate hydraulics and pneumatics *be confident to try new / different ideas	*think about user's wants/needs and aesthetics when choosing textiles *make product attractive and strong *make a prototype *use a range of joining techniques *think about how product might be sold *think carefully about what would improve product *understand that a single 3D textiles project can be made from a combination of fabric shapes.	*understand a recipe can be adapted by adding / substituting ingredients *explain seasonality of foods *learn about food processing methods *name some types of food that are grown, reared or caught in the UK or wider world *adapt recipes to change appearance, taste, texture or aroma. *describe some of the different substances in food and drink, and	*use different types of circuit in product * think of ways in which adding a circuit would improve product * program a computer to monitor changes in environment and control product Science link

and exploded diagrams * make design decisions, considering, resources and cost * clearly explain how parts of design will work, and how they are fit for purpose * independently model and refine design ideas by making prototypes and using pattern pieces * use computer-aided designs	make changes to improve quality * accurately measure, mark out, cut and shape materials/components * accurately assemble, join and combine materials/components * accurately apply a range of finishing techniques * use techniques that involve a number of steps * be resourceful with practical problems	how well they've been made, materials, whether they work, how they've been made, fit for purpose *evaluate how much products cost to make and how innovative they are *research and discuss how sustainable materials are *consider the impact of products beyond their intended purpose *discuss some key inventors/designers/ engineers/ chefs/manufacturers of groundbreaking products				how they can affect health *prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. *use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	