EYFS progression map from Nursery (3-4 years) to the end of Reception

Areas of Learning: Physical Development, Expressive Art and Design and Personal, Social and Emotional Development
Educational Programme from the EYFS framework:

Physical Development

Physical activity is vital in children's all-round development, enabling them to pursue happy, healthy and active lives. Gross and fine motor experiences develop incrementally throughout early childhood, starting with sensory explorations and the development of a child's strength, co-ordination and positional awareness through tummy time, crawling and play movement with both objects and adults. By creating games and providing opportunities for play both indoors and outdoors, adults can support children to develop their core strength, stability, balance, spatial awareness, co-ordination and agility. Gross motor skills provide the foundation for developing healthy bodies and social and emotional well-being. Fine motor control and precision helps with hand-eye co-ordination, which is later linked to early literacy. Repeated and varied opportunities to explore and play with small world activities, puzzles, arts and crafts and the practice of using small tools, with feedback and support from adults, allow children to develop proficiency, control and confidence.

Expressive Arts and Design

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Personal, Social and Emotional Development

Children's personal, social and emotional development (PSED) is crucial for children to lead healthy and happy lives, and is fundamental to their cognitive development. Underpinning their personal development are the important attachments that shape their social world. Strong, warm and supportive relationships with adults enable children to learn how to understand their own feelings and those of others. Children should be supported to manage emotions, develop a positive sense of self, set themselves simple goals, have confidence in their own abilities, to persist and wait for what they want and direct attention as necessary. Through adult modelling and guidance, they will learn how to look after their bodies, including healthy eating, and manage personal needs independently. Through supported interaction with other children they learn how to make good friendships, co-operate and resolve conflicts peaceably. These attributes will provide a secure platform from which children can achieve at school and in later life.

(Relevant statements can also be taken from 3-4yrs Understanding the World)

Concepts: Fine Motor Skills and Creating with Materials - DT

EYFS Vocabulary: Design: draw, ideas. Make: build, make. Evaluate: like, don't like, better, worse. Textiles: bead, button, fabric, felt, scissors, sew. Materials: cellotape, glue stick, masking tape, paperclip, plasticine, ruler, straw. Cooking: Apron, chop, cut, equipment, fork, knife, spoon, mix.

Nursery

Development Matters Pathway	**Ourselves**		**Animal Kingdom**		**Our Wonderful World**	
	Adult Directed Learning	**Enhanced Provision**	**Adult Directed Learning**	**Enhanced Provision**	**Adult Directed Learning**	**Enhanced Provision**
Physical Development *Use large – muscle movements to wave flags and streamers, paint and make marks.* *Choose the right resources to carry out their own plan.*	**Wiggle me into Squiggle/Squiggle While You Wiggle:** An indoor/ outdoor activity which uses movement and messy play to accelerate gross motor and fine muscle. **Toast:** Spreading and using a knife to spread	**Tuff Tray Messy Mark Making:** Supply messy play ingredients such as shaving foam, coloured sand, lentils etc. for children to explore movements with their hands and arms. **Spiders:** Display images of spiders and add pipe	**Wiggle me into Squiggle/Squiggle While You Wiggle:** An indoor/ outdoor activity which uses movement and messy play to accelerate gross motor and fine muscle. **Animal Worlds:** Make small world	**Tuff Tray Messy Mark Making:** Supply messy play ingredients such as shaving foam, coloured sand, lentils etc. for children to explore movements with their hands and arms. **Bear Caves:** Provide pictures of bears and	**Wiggle me into Squiggle/Squiggle While You Wiggle:** An indoor/ outdoor activity which uses movement and messy play to accelerate gross motor and fine muscle. **Fruit Salad:** Read the story, Handa's Surprise.	**Tuff Tray Messy Mark Making:** Supply messy play ingredients such as shaving foam, coloured sand, lentils etc. for children to explore movements with their hands and arms.

Use one-handed tools and equipment, for example, making snips in paper with scissors. **Expressive Arts and Design** *Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.* *Explore different materials freely, in order to develop their ideas about how to use them and what to make.* *Develop their own ideas and then decide which materials to use to express them.* *Create closed shapes with continuous lines, and begin to use these shapes to represent objects.* **Personal, Social and Emotional Development** *Make healthy choices about food, drink, activity and toothbrushing.*	toppings on toast for breakfast. **Homes:** Make 'straw, sticks and brick' box model homes for each of the three little pigs.	cleaners and googly eyes to the playdough area. **Homes:** Make small world representations of their homes using the wooden blocks and construction materials accessible to them.	representations using wooden blocks and construction kits of a farm (Cycle A) and a zoo (Cycle B). **Fruit Salad:** Read the story, Handa's Surprise. Make a fruit salad face – using a knife to chop with assistance. (Cycle B) **Easter Nests:** Make chocolate cornflake nests. Children to add ingredients and mix using appropriate tools.	junk model resources for children to construct caves (Cycle A) and enclosures (Cycle B) for the bears. **Chicks/Ducklings:** Display images of chicks (Cycle A) and ducklings (Cycle B) and add feathers, card beaks and googly eyes to the playdough area.	Make a fruit salad face – using a knife to chop with assistance. (Cycle A) **Wiggly worms:** Make own wiggly worms by threading pom poms and cheerios using a plastic needle and wool. (Cycle A) **Webs:** Construct a shape frame using lolly sticks. Weave wool in and out of the structure to create own webs. (Cycle A) **Bridges:** Display images of bridges and rivers in the construction area. Provide wooden blocks, flat boards, fabric, billy goats and a troll. Build bridges for the billy goats to safely cross the river. (Cycle B)	**Snipping:** Provide long strips of paper for spider (Cycle A) and octopus (Cycle B) legs/tentacles around a tuff tray. Children to make snips in paper using scissors.
Learning beyond the classroom			• Parent Easter craft afternoon			

Reception						
Development Matters Pathway	**Our Community**		**Night and Day**		**Growing and Changing**	
	Adult Directed Learning	**Enhanced Provision**	**Adult Directed Learning**	**Enhanced Provision**	**Adult Directed Learning**	**Enhanced Provision**
Physical Development *Progress towards a more fluent style of moving, with developing control and grace.* *Develop their small motor skills so that they can use a range of tools competently, safely and confidently.* *Use their core muscle strength to achieve a good posture when sitting at a table or on the floor.* **Expressive Arts and Design** *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.* *Use a range of small tools, including scissors, paintbrushes and cutlery.*	**Diva Lamps:** Design, create and decorate a Diva Lamp from plasticine to use in our Diwali parade. **Homes:** Design and create a box model of their own home using a range of materials and joining techniques. Review and refine models whilst building.	**Leaf Threading:** Provide a selection of real laminated leaves with holes punched in, threads, ribbons and thick needles. Thread or sew ribbon to make leaf decorations or autumn garlands. **Spiders:** Provide egg cups, pipe cleaners and paper webs and wool to make spiders and webs. **Hibernation Homes:** Display pictures of animal homes. Provide junk model materials and construction resources to make homes for woodland animals. **Emergency vehicles:** Display images of emergency vehicles. Provide junk modelling and engineering sets to make emergency vehicles. Include paper and clipboards to draw and plan them. **Building bridges:** Display images of bridges and rivers in small world area. Provide wooden blocks, boards and fabric to build bridges for	**Cuddle Pet:** Provide sock, wadding, cotton wool, buttons or googly eyes, felt for features to create a cuddle pet. Sew up the open-end using needle and thread. (Parental engagement activity)	**Snow Mobiles:** Provide a variety of construction kits to make vehicles designed to travel across the ice and snow. **Dream Catchers**: Provide circles made from pipe cleaners, ribbons, string, beads, feathers to make dreamcatchers. **Small world Habitats:** Add animals, log slices, branches and coloured fabric to create habitats and small worlds. **Transport:** Display images of different methods of transport. Make models of transport using junk resources. **Den Building:** Provide a range of den building resources in the outdoor area, including tarpaulins, sheets of fabric, plastic crates and large pegs to make a camp. **Frog Pond:** Add blue and green gems, blue fabric, frogs, bubble wrap frog spawn and lilly pads to small world area to create frog ponds.	**A Country Lunch:** Design a healthy sandwich using farm produce. Provide cutlery, paper plates and ingredients to make a healthy country lunch. Encourage skills including spreading, cutting and chopping. Taste and review our lunch.	**Seed Shakers:** Provide yoghurt pots, cardboard tubes, seeds, rice, dried beans, tape, elastic bands and greaseproof paper to make a seed shaker percussion instrument. **Mouse Puppets:** Provide paper, wool and felt to make mouse cone puppets. **Miniature Gardens:** Provide trays, artificial grass, small world people, garden furniture, wood slices, twigs, pebbles etc to make miniature gardens in the small world area. **Fans:** Provide coloured A4 paper and felt tip pens to make and decorate folding paper fans.

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.* **Personal, Social and Emotional Development** *Know and talk about the different factors that support their overall health and wellbeing: healthy eating.*		Gingerbread Man to cross the river.		**Nest building:** Add polydrons, chicks and straw to tuff spot to build nests.		
Learning beyond the classroom			• Parent craft afternoon – making cuddle pets			

Continuous Provision: Throughout the year children in Nursery and Reception have access to both indoor and outdoor continuous provision, including the outdoor classroom. The continuous provision offered in these areas enables children to select from a range of resources and small tools e.g. scissors, paintbrushes, cutlery, gardening tools, baking utensils, to create their own child-initiated projects which also meet the skills of the Development Matters Pathway.

Progression steps within the concepts		**Physical Development**	**Creating with Materials**			**Food and Nutrition**
			Design	**Make**	**Evaluate**	
	Nursery	• I can explore systems in toys e.g. pop-up books. *(UW)* • I understand how to manipulate items - pushing toys forwards and backwards. *(UW)* • I can use one-handed tools and equipment. • I can use scissors to snip paper.	• I can look at pictures to help me decide what to make. • I can begin to make decisions about what I want to create.	• I can explore a range of materials and begin to experiment with them to create forms and structures. • I can explore some simple joining techniques (glue, tape). • I can begin to select tools independently for a given purpose.	• I can say what I have made and how I have made it.	• I can name some of the food groups e.g. fruits, vegetables, drinks. • I can name some fruits and know they are good for me.

	Reception	• I can use one-handed tools and equipment with increasing control, accuracy and safety. • I can use scissors to cut out more complex shapes and cut outs.	• I can talk about my ideas. • I can look at pictures of real structures/buildings/ vehicles etc and talk about their features with others to help develop my ideas.	• I can refine my ability to create forms and structures using a range of materials and textures. • I can explore a variety of effects to express my ideas when using materials for decorative purposes. • I can select an appropriate tool independently for a given purpose. • I can use the tool to achieve a texture, form or function e.g. cutting, stirring, printing. • I can work with my peers to create a shared project.	• I can say what I like about a model or structure I have made and describe it's features. • I can reflect and make choices about how to improve my model as I work on it. • I can listen to feedback from others to improve my creation. • I can transfer skills and techniques from previous learning into new projects.	• I can make healthy choices about food and drink.

Early Learning Goal: **Physical Development: Fine Motor Skills:** Children at the expected level of development will: • Use a range of small tools, including scissors, paint brushes and cutlery.	**Early Learning Goal:** **Expressive Arts and Design: Creating with Materials:** Children at the expected level of development will: • 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.	**Early Learning Goal:** **Personal, Social Emotional Development: Managing Self** Children at the expected level of development will: • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Whole School Design & Technology Curriculum

KS1 Design and Technology Content Coverage

Pupils should be taught about:	**Y1 Cooking**	**Y1 Mechanisms**	**Y1 Structures**	**Y2 Textiles**	**Y2 Mechanisms**	**Y2 Cooking**	**Y2 Structures**
Design, make and evaluate	✓	✓	✓	✓	✓	✓	✓
build structures, exploring how they can be made stronger, stiffer and more stable			✓		✓		✓
explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		✓			✓		
use the basic principles of a healthy and varied diet to prepare dishes	✓					✓	
understand where food comes from.	✓					✓	
Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.				✓		✓	

Year 1 Design and Technology ARE	
Design I can have my own ideas and explain what I want to do I can explain what my product is for, and how it will work I can use pictures and words to plan, begin to use models I can design a product for myself following design criteria	***Make*** I can explain what I'm making and why, considering what I need to do next I can select tools/equipment to cut, shape, join, finish and explain choices I can measure, mark out, cut and shape, with support I can choose suitable materials and explain choices I can try to use finishing techniques to make product look good I can work in a safe and hygienic manner
Evaluate I can talk about my work, linking it to what I was asked to do I can talk about existing products considering: use, materials, how they work, audience and where they might be used I can talk about existing products, and say what is and isn't good I can talk about things that other people have made	
Technical Knowledge <u>Construction</u> I can begin to measure and join materials, with some support I can describe differences in materials I can suggest ways to make material/product stronger I can begin to understand how to use wheels and axles <u>Textiles</u> I can measure materials	***Cooking and Nutrition*** I can describe textures I can wash hands & clean surfaces I can say where some foods come from, (i.e. plant or animal) I can describe differences between some food groups (i.e. sweet, vegetable etc.) I can discuss how fruit and vegetables are healthy I can cut, grate and peel safely, with support.

I can describe some different characteristics of materials I can join materials in different ways I can use joining, rolling or folding to make it stronger I can use own ideas to try to make product stronger	
Year 2 Design and Technology ARE	
Design I can have my own ideas and plan what to do next I can explain what I want to do and describe how I may do it I can explain the purpose of a product, how it will work and how it will be suitable for the user I can describe and design using pictures, words, models, diagrams and begin to use ICT I can design products for myself and others following design criteria I can choose the best tools and materials and explain choices I can use knowledge of existing products to produce ideas	***Make*** I can explain what I am making and why it fits the purpose I can make suggestions as to what I need to do next. I can join materials/components together in different ways I can measure, mark out, cut and shape materials and components, with support. I can describe which tools I'm using and why I can choose suitable materials and explain choices depending on characteristics. I can use finishing techniques to make products look good I can work safely and hygienically
Evaluate I can describe what went well, thinking about design criteria I can talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion I can evaluate how good existing products are I can talk about what I would do differently if I were to do it again and why I can begin to talk about what could make product better	
Technical Knowledge <u>Construction</u> I can measure materials I can describe some different characteristics of materials I can join materials in different ways I can use joining, rolling or folding to make it stronger I can use own ideas to try to make product stronger I can use levers or sliders <u>Textiles</u> I can measure and cut textiles I can join textiles together to make a product and explain how I did it I can explain choices of textile I can understand that a 3D textile structure can be made from two identical fabric shapes.	***Cooking and Nutrition*** I can explain hygiene I can describe the importance of varied diet I can say where food comes from (animal, underground etc.) I can draw eat well plate; explain there are groups of food I can describe "five a day" I can cut, peel and grate with increasing confidence

Year 1

Whole School Design & Technology Curriculum

Enquiry Question	How do the wheels turn on a locomotive? (Stephenson's rocket)	How can I make play ground equipment strong enough for my Lego character?	How can I make a healthy wrap for my lunch?
Vocabulary	decorate, wheel, axle, fixed, design, make, cutting, joining, body, cab, cut, fold, fix,	decorate, design, make, cutting, joining, cut, fold, fix, weak, strong, cutting, choosing, planning,	Decorate, design, make, cutting, fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing,
Skills	• Generate initial ideas and design criteria through own experiences. • Develop, draw and discuss ideas. • Create by selecting and using simple tools and equipment e.g. cutting and joining. • Evaluate ideas and products against design criteria.	• Generate initial ideas and design criteria through own experiences. • Develop, draw and discuss ideas. • Create by selecting and using simple tools and equipment e.g. cutting and joining. • Evaluate ideas and products against design criteria.	• Use senses to taste and explore ingredients to determine user's preference. • Design a pitta wrap, selecting a range of healthy ingredients. • Develop, draw and discuss ideas. • Create by selecting and using simple utensils, tools and equipment. E.g. cut, slice and peel. • Evaluate ideas and products against design criteria.
Knowledge and Understanding	• Explore and use wheels, axles and axle holders. • Know and use technical vocabulary relevant to the project.	• Know how to make free standing structures • Know and use technical vocabulary relevant to the project.	• Understand and use basic principles of healthy and varied diet to prepare a pitta wrap. • Know and use technical and sensory vocabulary relevant to the project.
Curriculum enhancements	Electric car	Visit to a playpark?	Decorate, design, make, cutting, fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing,
Links to previous Learning	Opportunities in EYFS to explore and play with wheels in different construction kits (e.g. Lego, mobile and toy cars)	Opportunities in EYFS to explore some simple joining techniques (glue, tape). Independently begin to select tools for a given purpose.	Opportunities in EYFS encourage skills including spreading, cutting and chopping with support to create a healthy sandwich. Discussing favourite flavours and making healthy choices.

Year 2				
Enquiry Question	How do I make a lighthouse sturdy?	How can a moving part make my picture come to life?	How do I prepare fruit to eat and drink?	How can I attach fabric securely? (minibeast sewing)
Vocabulary	decorate, design, make, cutting, stick, cut, fold, fix, choosing, planning. Structure, base, underneath, thicker, thinner, corner, point, curved, rectangle, cylinder, sturdy.	Base, underneath, thicker, thinner, corner, point, curved, rectangle, , mechanism, lever, slider, ,slot, sturdy, lever, pivot, push , pull, up, down, left, right, forwards, backwards	Decorate, design, make, cutting vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting,	Template, stitch, design, needle, thread, fabric, join, sew.
Skills	• Generate initial ideas and design based on simple criteria through own experiences, explaining what they could make. • Develop, draw, label and discuss ideas through talking and mock ups. • Create by selecting and using simple tools, techniques e.g. flange and equipment, explaining their choices e.g. cutting and joining. • Evaluate ideas and products against design criteria.	• Generate initial ideas and design based on simple criteria through own experiences, explaining what they could make. • Develop, draw, label and discuss ideas through talking and mock ups. • Plan by suggesting what to do next. • Create by selecting and using simple tools, techniques and equipment, explaining their choices e.g. cutting and joining. • Evaluate ideas and products by discussing how well it works in relation to other examples and against design criteria.	• Use senses to taste and explore ingredients to determine user's preference. • Prepare a fruit salad, selecting a range of healthy ingredients. • Develop, draw, label and discuss ideas. • Design a smoothie based on flavours that work well together. • Create by selecting and using simple utensils, tools and equipment explaining choices. E.g. cut, slice and peel. • Evaluate and discuss ideas and products against design criteria.	• Explore and evaluate a range of existing soft toy. • Develop, draw, label and discuss ideas. • Design an appealing product for a particular user. • Plan by suggesting what to do next. • Create by selecting and using simple tools and equipment e.g. cutting, joining by sewing and finishing fabric. • Evaluate and discuss ideas and products against design criteria.
Knowledge and Understanding	• Understand how to join a range of materials using different techniques. E.g. sand, stone and cardboard. • Know and use technical and sensory vocabulary relevant to the project • Know how to make free standing structures (lighthouse) stronger, stiffer and more stable.	• Explore and use sliders and levers for bridges. • Understand that different mechanisms produce different types of movements. • Know and use technical vocabulary relevant to the project.	• Understand where a range of fruit and vegetables come from. Understand and use basic principles of healthy and varied diet to prepare dishes. • Know and use technical and sensory vocabulary relevant to the project.	• Understand how simple 3D textile products are made. • Understand how to join fabrics using different techniques. E.g glue and sewing. • Explore finishing techniques • Know and use technical and sensory vocabulary relevant to the project
Curriculum enhancements			Outside classroom planting	

Whole School Design & Technology Curriculum

Links to previous Learning	Experience from EYFS and Y1 of using construction kits to build walls, towers and frameworks. Experience of different methods of joining including card and paper.	Experience from EYFS and Y1 of exploring pop up books and books with sliders.	Experience from EYFS and Y1 of discussing how fruit and vegetables are healthy opportunities to spread, cut, grate and peel safely, with support when making toast, sandwiches and pitta wraps.	Experience from EYFS and Y1 of joining techniques including joining fabrics using glueing and stapling. Opportunities for threading in EYFS.

LKS2 Design and Technology Content Coverage

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts						
When designing and making, pupils should be taught to:	**Y3 Mechanisms**	**Y3 Structures**	**Y3 Cooking**	**Y4 Textiles**	**Y4 Electricity**	**Y4 Cooking**
Design - 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	✓	✓	✓	✓	✓	✓
Design – generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	✓	✓	✓	✓	✓	✓
Make – select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately	✓	✓	✓	✓	✓	✓
Make – 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	✓	✓	✓	✓	✓	✓
Evaluate – investigate and analyse a range of existing products	✓	✓	✓	✓	✓	✓
Evaluate - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	✓	✓	✓	✓	✓	✓
Evaluate - understand how key events and individuals in design and technology have helped shape the world	✓				✓	✓
Technical Knowledge – apply their understanding of how to strengthen, stiffen and reinforce more complex structures		✓		✓		
Technical Knowledge – understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	✓					
Technical Knowledge – understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]					✓	
Technical Knowledge – apply their understanding of computing to program, monitor and control their products.						
Cooking and nutrition - understand and apply the principles of a healthy and varied diet			✓			✓

Cooking and nutrition - prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques			✓			✓
Cooking and nutrition - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed			✓			✓

Year 3 Design and Technology ARE

Design I can show design meets a range of requirements I can begin to research others' needs I can describe purpose of product I can follow a given design criteria I can have at least one idea about how to create product I can create a plan which shows order, equipment and tools I can make design decisions I can explain how product will work I can begin to use computers to show design	***Make*** I can select suitable tools/equipment, explain choices; begin to use them accurately I can select appropriate materials, fit for purpose. I can work through a plan in order. I can consider how good product will be. I can begin to measure, mark out, cut and shape materials/components with some accuracy. I can begin to assemble, join and combine materials and components with some accuracy. I can begin to apply a range of finishing techniques with some accuracy.
Evaluate I can look at design criteria while designing and making. I can use design criteria to evaluate finished product. I can say what I would change to make design better I can begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose. I can begin to understand by whom, when and where products were designed. I can learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products.	
Technical knowledge I can use appropriate materials. I can work accurately to make cuts and holes. I can join materials I can begin to make strong structures I can select appropriate tools/ techniques I can alter a product after checking, to make it better. I can begin to try new/different ideas. I can use simple lever and linkages to create movement. I can learn how to use a computer program to design and create a product.	***Food and Nutrition*** I can carefully select ingredients. I can use equipment safely. I can make a product look attractive. I can begin to understand that food comes from the UK and the wider world. I can describe how a varied diet = healthy balance between food and drinks. I can explain how food and drink are needed for active, healthy diets.

Year 4 Design and Technology ARE

Design I can use research for design ideas I can show design meets a range of requirements and is fit for purpose I can begin to create own design criteria I can have at least one idea about how to create product and suggest improvements for design	***Make*** I can select suitable tools and equipment, explain choices in relation to required techniques and use accurately I can select appropriate materials, fit for purpose and explain choices I can work through a plan in order I can realise if a product is going to be good quality

I can produce a plan and explain it to others I can say how realistic a plan is I can include an annotated sketch I can make and explain design decisions considering availability of resources I can explain how a product will work I can make a prototype	I can measure, mark out, cut and shape materials/components with some accuracy I can assemble, join and combine materials and components with some accuracy I can apply a range of finishing techniques with some accuracy
Evaluate I can refer to design criteria while designing and making I can use criteria to evaluate product I can begin to explain how I could improve original design I can evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose I can discuss by whom, when and where products were designed I can research whether products can be recycled or reused I can know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products	
Technical Knowledge I can measure carefully to avoid mistakes I can attempt to make product strong I can continue working on a product even if original didn't work I can select most appropriate tools / techniques I can explain alterations to product after checking it I can grow in confidence about trying new / different ideas I can use number of components in circuit I can think about user when choosing textiles I can begin to devise a template I can explain how to join things in a different way I can understand that a simple fabric shape can be used to make a 3D textiles project	I can explain how to be safe/hygienic I can think about presenting product in interesting/ attractive ways I can understand ingredients can be fresh, pre-cooked or processed I can begin to understand about food being grown, reared or caught in the UK or wider world I can describe eat well plate and how a healthy diet=variety / balance of food and drinks I can explain importance of food and drink for active, healthy bodies I can prepare and cook some dishes safely and hygienically I can use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading and baking

Year 3			
Enquiry Question	How could we make a seasonal greetings card more exciting?	How could you keep your precious items safe?	How can we make a tasty scone?
Key Events and Individuals	Christmas/Seasonal Celebration Hallmark examples of card manufacturers		
Vocabulary	mechanism, lever, linkage, pivot (loose and fixed) , slot, bridge, guide, input, process, output, linear, rotary, oscillating, prototype, design criteria, innovative, appealing, design brief, user, purpose, function	Shell structure, 3-D (3 dimensional), shape, net, cube, cuboid, prism, vertex, edge, face, width, length, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, text, graphics, decision, evaluating, design brief, design criteria, innovative,	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, tinned, seasonal, harvested healthy/varied diet, planning, design criteria, purpose,

		prototype.	user, annotated sketch, sensory evaluations
Skills	**Designing** • Gather information about the needs and wants of particular individuals and groups. • Generate realistic ideas and their own design criteria through discussion focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas • *Make design decisions that take account of the availability of resources.* **Making** • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card with some accuracy. • Assemble, join and combine materials and components with some accuracy • *Explain their choice of tools and equipment in relation to the skills and techniques they will be using* • Select from and use finishing techniques suitable for the product they are creating. • explain their choice of materials and components according to functional properties and aesthetic qualities **Evaluating** • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Identify the strengths and areas for development in their ideas and products • Evaluate their own products and ideas against criteria and user needs, as they design and make.	**Designing** • Generate realistic ideas and design criteria collaboratively though discussion, focussing on the needs of the user and the functional and aesthetic purposes of the product. • Develop ideas through the analysis of existing shell structures and use computer aided design to model and communicate ideas. **Making** • Plan the order of the main stages of making. • Select and improve a range of appropriate skills and software to measure, mark out, cut, score, shape and assemble. • Explain the choice of materials according to functional properties and aesthetic qualities. • Use computer-generated finishing techniques suitable for the product they are creating. **Evaluating** • Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used. • Test and evaluate their own products against design criteria and the intended user and purpose.	**Designing** • Generate and clarify ideas through discussion with peers and adults to develop and design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. **Making** • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • Select from a range of ingredients to make appropriate food products safely and hygienically including, where appropriate, the use of a heat source, thinking about sensory characteristics. **Evaluating** • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.
Knowledge and Understanding	• How mechanical systems such as **levers and linkages** or pneumatic systems create movement.	• Develop and use knowledge of nets of cubes and cuboids, and where appropriate, more complex 3-D shapes.	• Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed

	• Distinguish between fixed and loose pivots. • Know and use relevant technical vocabulary relevant to the project.	• Develop and use knowledge of how to construct strong, stiff, shell structures. • Know and use technical vocabulary relevant to the project.	ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately.
Curriculum enhancements			
Links to Previous Learning	• Explored and used mechanisms such as flaps, sliders and levers. • Gained experience of basic cutting, joining and finishing techniques with paper and card.	• Experience of using different joining, cutting and finishing techniques with paper and card. • A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.	• Know some ways to prepare ingredients safely and hygienically. • Have some basic knowledge and understanding about healthy eating and *The eatwell plate.* • Have used some equipment and utensils and prepared and combined ingredients to make a product. • 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. • That a healthy diet is made up from a variety and balance of different food and drink, as depicted in the eatwell plate. • That to be active and healthy, food and drink are needed to provide energy for the body.

Year 4			
Enquiry Question	How can you hold your pocket money? (Autumn Term)	How would you make a healthy pizza ? (Spring)	Is it possible to read in the dark? (Summer)
Key Events and Individuals			Thomas Edison & Latimer
Vocabulary	fabric, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces	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, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations	series circuit, fault, connection, toggle, switch, push-to-make, push to break, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, user, purpose, function, prototype, design criteria, innovative, appealing, design brief.
Skills	**Designing** • Gather information about the needs and wants of particular individuals and groups. • Generate realistic ideas through discussion and develop design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces. • Make design decisions that take account of the availability of resources. **Making** • Order and plan the main stages of making. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. • Measure, mark out, cut and shape materials and components with some accuracy • Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. • Apply a range of finishing techniques, including those from art and design, with some accuracy.	**Designing** • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. **Making** • Order and plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. **Evaluating** • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views	**Designing** • 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. **Making** • 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 construction materials and electrical components according to their functional properties and aesthetic qualities. **Evaluating** • Investigate and analyse a range of existing battery-powered products. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.

	Evaluating • Investigate a range of 3-D textile products relevant to the project. • Refer to, and test their product against the original design criteria and with the intended user. • Take into account others' views. • Use their design criteria to evaluate their completed products	of others. • Understand how a key event/individual has influenced the development of the chosen product.	
Knowledge and Understanding	• Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project.	• Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately.	• Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project.
Curriculum enhancements			
Links to Previous Learning	• Have joined fabric in simple ways by gluing and stitching. • Have used simple patterns and templates for marking out. • Have evaluated a range of textile products.	• Know some ways to prepare ingredients safely and hygienically. • Have some basic knowledge and understanding about healthy eating and t*he eatwell plate.* • Have used some equipment and utensils and prepared and combined ingredients to make a product. •	• Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. • Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.

Whole School Design & Technology Curriculum

UKS2 Design and Technology Content Coverage

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts						
When designing and making, pupils should be taught to:	**Y5 Cooking**	**Y5 Mechanisms**	**Y5 Structures**	**Y6**	**Y6**	**Y6**
Design - 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	✓	✓	✓	✓	✓	✓
Design – generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	✓	✓	✓	✓	✓	✓
Make – select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately	✓	✓	✓	✓	✓	✓
Make – 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	✓	✓	✓	✓	✓	✓
Evaluate – investigate and analyse a range of existing products	✓	✓	✓	✓	✓	✓
Evaluate - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	✓	✓	✓	✓	✓	✓
Evaluate - understand how key events and individuals in design and technology have helped shape the world	✓	✓	✓	✓	✓	✓
Technical Knowledge – apply their understanding of how to strengthen, stiffen and reinforce more complex structures			✓	✓		
Technical Knowledge – understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]		✓				
Technical Knowledge – understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]					✓	
Technical Knowledge – apply their understanding of computing to program, monitor and control their products.					✓	
Cooking and nutrition - understand and apply the principles of a healthy and varied diet	✓					✓
Cooking and nutrition - prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	✓					✓
Cooking and nutrition - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed						

						✓

Year 5 Design and Technology ARE	
Design I can use internet and questionnaires for research and design ideas I can take a user's view into account when designing I can begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose I can create my own design criteria I can produce a logical, realistic plan and explain it to others. I can use cross-sectional planning and annotated sketches I can make design decisions considering time and resources. I can clearly explain how parts of product will work. I can model and refine design ideas by making prototypes and using pattern pieces.	***Make*** I can use selected tools/equipment with good level of precision I can produce suitable lists of tools, equipment/materials needed I can select appropriate materials, fit for purpose; explain choices, considering functionality I can create and follow detailed step-by-step plan I can explain how product will appeal to an audience I can mainly accurately measure, mark out, cut and shape materials/components I can mainly accurately assemble, join and combine materials/components I can mainly accurately apply a range of finishing techniques I can use techniques that involve a small number of steps
Evaluate I can evaluate quality of design while designing and making I can evaluate ideas and finished product against specification, considering purpose and appearance. I can test and evaluate final product I can evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose I can begin to evaluate how much products cost to make and how innovative they are I can research how sustainable materials are I can talk about some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products	
Technical Knowledge I can select materials carefully, considering intended use of product and appearance I can explain how product meets design criteria I can measure accurately enough to ensure precision I can ensure product is strong and fit for purpose I can begin to reinforce and strengthen a 3D structure I can refine product after testing I can grow in confidence about trying new / different ideas I can begin to use cams, pulleys or gears to create movement	***Cooking and Nutrition*** I can develop sensory vocabulary and knowledge using, smell, taste, texture and feel I can analyse the taste, texture, smell and appearance of a range of foods I can follow instructions I can make healthy eating choices from and understanding of a balanced diet I know that a variety of different, and sometimes unusual, foods are used all over the world I can join and combine a range of ingredients and comment on their success. I can work safely and hygienically I can measure and weigh ingredients appropriately I can identify the strengths and weaknesses of my design ideas I can decide which design idea to develop I can consider and explain how the finished product could be improved I can discuss how well the finished product meets the design criteria and how well it meets the needs of the user
Year 6 Design and Technology ARE	
Design I can draw on market research to inform design.	***Make*** I can use selected tools and equipment precisely.

I can use research of user's individual needs, wants, requirements for design. I can identify features of design that will appeal to the intended user. I can create own design criteria and specification. I can come up with innovative design ideas, follow and refine a logical plan. I can use annotated sketches. I can make design decisions, considering resources and cost. I can clearly explain how parts of design will work, and how they are fit for purpose. I can independently model and refine design ideas by making prototypes and using pattern pieces. I can use computer-aided designs.	I can produce suitable lists of tools, equipment, materials needed, considering constraints. I can select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics. I can create, follow, and adapt detailed step-by-step plans. I can explain how the product will appeal to the audience and make changes to improve quality. I can accurately measure, mark out, cut and shape materials/components. I can accurately assemble, join and combine materials/components. I can accurately apply a range of finishing techniques. I can use techniques that involve a number of steps. I can be resourceful with practical problems.
Evaluate I can evaluate quality of design while designing and making; is it fit for purpose? I can keep checking design is the best it can be. I can evaluate ideas and finished product against specification stating if it's fit for purpose. I can test and evaluate final product; explain what would improve it and the effect different resources may have had. I can do thorough evaluations of existing products considering how well they've been made, materials, whether they work, how they've been made, fit for purpose. I can evaluate how much products cost to make and how innovative they are. I can research and discuss how sustainable materials are. I can consider the impact of products beyond their intended purpose. I can discuss some key inventors/designers/ engineers/ chefs/manufacturers of groundbreaking products.	
Technical Knowledge I can select materials carefully, considering intended use of the product, the aesthetics and functionality. I can explain how product meets design criteria. I can reinforce and strengthen a 3D structure or product. I can refine product after testing, considering aesthetics, functionality and purpose. I can be confident to try new / different ideas. I can use different types of circuit in a product. I can think of ways in which adding a circuit would improve product. I can program a computer to monitor changes in environment and control product. I can think about the user's wants/needs and aesthetics when choosing textiles. I can make the product attractive and strong. I can make a prototype. I can use a range of joining techniques. I can think carefully about what would improve the product. I can understand that a single 3D textiles project can be made from a combination of fabric shapes.	***Cooking and Nutrition*** I can understand a recipe can be adapted by adding / substituting ingredients. I can explain seasonality of foods. I can present a product to a high standard to make the product interesting and aesthetically attractive. I can learn about food processing methods. I can name some types of food that are grown, reared or caught in the UK or wider world. I can adapt recipes to change appearance, taste, texture or aroma. I can describe some of the different substances in food and drink, and how they can affect health. I can prepare and cook a variety of dishes safely and hygienically including, where appropriate, the use of heat source. I can use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

Year 5			
	Food Technology	**Mechanisms: Pulleys or gears (Pulley)**	**Frame structures (Bridges)**
Enquiry Question	What was bread like in ancient times?	How can we make a model ski lift that moves?	Which structure would be the most effective for holding a toy car?
Key Events and Individuals	Research key chefs and how they have promoted seasonality, local produce and healthy eating.	Archimedes Claw/Screw	Locally important design and technology activity related to their project (Transporter Bridge)
Vocabulary	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 design specification, innovative, research, evaluate, design brief	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 design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief	frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional
Skills	**Designing** • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. **Making** • Write a step-by-step recipe, including a	**Designing** • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. **Making** • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and	**Designing** • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. **Making**

	list of ingredients, equipment and utensils • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose. **Evaluating** • Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Understand how key chefs have influenced eating habits to promote varied and healthy diets.	equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. **Evaluating** • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project.	• Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • Use finishing and decorative techniques suitable for the product they are designing and making. **Evaluating** • Investigate and evaluate a range of existing frame structures. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Research key events and individuals relevant to frame structures.
Knowledge and Understanding	**Technical knowledge and understanding** • Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.	**Technical knowledge and understanding** • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project	**Technical knowledge and understanding** • Understand how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project.
Curriculum enhancements		Tees Barrage	Bridges across the River Tees
Links to Previous Learning	• Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and	• Experience of axles, axle holders and wheels that are fixed or free moving. • Basic understanding of electrical circuits, simple switches and components.	• Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials. • Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.

	combining ingredients.	• Experience of cutting and joining techniques with a range of materials including card, plastic and wood. • An understanding of how to strengthen and stiffen structures.	

Year 6			
	Textiles - Combining different fabric shapes	**Food - Celebrating culture and seasonality** **Pasta Sauce**	**Electrical Systems - Monitoring and control**
Enquiry Question	How can we make a Christmas decoration using a range of materials and different sewing techniques?	How can a recipe be adapted by adding or substituting ingredients?	What can we design and make using inputs with computer control?
Key Events and Individuals	Kirstie Allsopp	Jamie Oliver	Alessandro Volta
Vocabulary	seam, seam allowance, wadding, reinforce, right side, wrong side, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings. design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype	ingredients, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, allergy, intolerance, savoury, seasonality, source, seasoning, litres, measuring jug, utensils, ladle, teaspoon, tablespoon, dessert spoon, crumble, stir, mix, pour, sprinkle, design specification, innovation, research, evaluate, design brief	Push switch, flick switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, control, program, system, input device, output device, series circuit, parallel circuit function, innovative, design specification, design brief, user, purpose
Skills	• Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer- aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. • Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished.	• Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Write a step-by-step recipe, including a list of ingredients, equipment and utensils. • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make and present the food product appropriately for the intended user and purpose. • Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables / graphs / charts such as star diagrams. • Evaluate the final produce with reference back to the design brief and specification, taking into account the views of others when identifying improvements.	• Develop a design specification for a functional product that responds automatically to changes inthe environment. • Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable their electrical product to respond to changes in the environment.

	Work within the constraints of time, resources and cost. • Investigate and analyse textile products linked to their final product. • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work.		• Continually evaluate and modify the working features of the product to match the initial design specification. • Test the system to demonstrate its effectiveness for the intended user and purpose. • Apply their understanding of computing to program, monitor and control their products
Knowledge and Understanding	• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate.	• Understand how key chefs have influenced eating habits to promote varied and healthy diets. • Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary.	• Understand and use electrical systems in their products. • Understand the use of computer control systems in products. • Know and use technical vocabulary relevant to the project.
Curriculum enhancements		Plant vegetable seeds in the outdoor classroom.	
Links to Previous Learning	• Experience of basic stitching, joining textiles and finishing techniques. • Experience of making and using simple pattern pieces.	• Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.	• Initial experience of using computer control software and an interface box, a standalone box or microcontroller, e.g. Crumble. • Some experience of writing and modifying a program to make a light turn on or flash on and off. • Understanding of the essential characteristics of a series circuit and experience of creating a battery-powered, functional, electrical product.