Topic overview for D.T.

KS1

Year 1	Year 2
Mechanisms - Wheels and axels - Sliders and levers Food - Preparing fruit and vegetables	Textiles – Templates and joining techniques Structures – Freestanding structures Food - Preparing fruit and vegetables

KS2

Year 3/4	Year 5	Year 6
Textiles – 2D shape to 3D product Food - Healthy and varied diet	Mechanical Systems - Pulleys or Gears Structures - Frame structures Food - Celebrating culture and seasonality	Electrical Systems – More complex switches and circuits Textiles - Combining different fabric shapes. Food- Exploring vegetables available in summer or all season.

Food Technology is taught in the following years:

Year 1	Year 2	Year 3/4	Year 5	Year 6
Preparing fruit and vegetables. (making a fruit smoothie)	Preparing fruit and vegetables. (making a healthy fruit salad and a simple sandwich)	Healthy and varied diet (Designing, making and evaluating a bread-based product with a filling for lunch, such as a wrap, a sandwich, a roll, a blini or a toastie)	Celebrating culture and seasonality. (Design and make vegetable soup and bread including making the dough)	Exploring vegetables available in winter or all season. (Winter picnic)
Key Knowledge: Experience tasting and touching of a variety of common vegetables and fruit. Understanding of where they are grown (above and below ground) & which parts are eaten.	Key Knowledge: Experience touching and tasting common and uncommon fruit. To understand where individual fruit originates from and where they grow.	Key Knowledge: Know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Know about a range of fresh and processed ingredients appropriate for their product. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. Plan the main stages of a recipe, listing ingredients, utensils and equipment.	Key Knowledge: Name and describe a number of local and seasonal vegetables that were grown locally – possibly in WW2 allotments.	Key knowledge: To name and describe a number of local and seasonal vegetable products in season for winter picnic. To design, make, eat and evaluate a hot food pocket outside (no plate/fork/knife/spoon)

		Identify and name different food. Know some ways to prepare ingredients safely and hygienically.		
Key Vocabulary: Fruit, vegetable, plant, root, cauliflower, cabbage, strawberries, beetroot, onions, apples, plums, broad beans, blackberries, rhubarb, celery, lettuce, carrots, tomatoes, radishes, runner beans, turnips, potatoes. Names of utensils used. Adjectives to describe taste soft, juicy, crunchy, sweet, sour, sticky, smooth, crisp. Cut, peel, wash, taste, squeeze, juice. (see also *Project on a page* overview).	Key Vocabulary: Fruit, vegetables, plant, root, design, draw, describe, first, next, after that, finally, peeler, grater, knife, cut, squeeze, juicer, banana, passion fruit, gooseberry, mango, grapes, carrots, apple, country of origin, originates, hygiene. (see Project on a page overview).	Key Vocabulary: Plant, seeds, tools, dig, grow, conditions, soil, water, name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory, evaluations	Key Vocabulary: Local, seasonal, allotment, fuel, heat source, raised beds, sow, germinate, chard, Jerusalem artichoke, forage, green wood, seasoned wood. Grate, peel, chop dice. Weeding, gardening, selecting, forage, edible, hygienic.	Key vocabulary: Local, seasonal, oven roast, baste, season, chop, peel, dice, local produce, harvest, fens. Recipe, flavour, aroma, caramelised, budget, utensils, functional, crisp, enhance, crops, hygiene, garlic, onion, herbs, rosemary, sage, potatoes, carrots, beetroot, salt, pepper.
Key Skills: Use simple utensils and equipment to peel/chop/cut safely Show preference to particular fruits and vegetables.	Key Skills: To be able to show preference to some fruit. Describe the taste. To be able to cut, peel and grate some fruit and veg. To be able to think critically and reflect on successes and areas for improvement.	Key Skills: Select and use appropriate utensils and equipment to prepare and combine ingredients. Use annotated sketches and appropriate information and communication technology, such as web-	Key Skills: Share ideas that explore availability, seasonality and growing and harvesting own produce. Identify food suitable for soups that are cost effective. Identifying and selecting edible plants.	Key skills: Share ideas, explore different root crops and the taste, colour, texture of them. Discuss likes and dislikes. Be able to identify a recipe that will taste, look and smell good.

		based recipes, to develop and communicate ideas. Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.		Chop, slice, dice, season and roast.

Year 1/2	Year 3/4	Year 5/6
Prior learning: Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.	Prior learning: Know some ways to prepare ingredients safely and hygienically. Have some basic knowledge and understanding about healthy eating and *The Eatwell Guide*. Have used some equipment and utensils and prepared and combined ingredients to make a product.	Prior 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 combining ingredients.
Design: Design appealing products for a particular user based on simple design criteria. Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. Communicate these ideas through talk and drawings.	Design: 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.	Design: 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.

Make: Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.	**Make:** 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.	**Make:** 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, decorate and present the food product appropriately for the intended user and purpose.
Evaluate: Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Evaluate ideas and finished products against design criteria, including intended user and purpose.	**Evaluate:** 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.	**Evaluate:** 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.

Textiles is taught in the following years:

Year 2	Year 3	Year 6
Templates and joining techniques	2D shape to 3D product	Combining different fabric shapes.
Key knowledge: Understand how to join fabrics using different techniques such as stapling, running stitch and glue. Name and describe a variety of fabrics/materials. Imagine and draw a functional product. Share and record ideas against the original design.	Key knowledge: Understand the need for patterns and seam allowances. Have joined fabric in simple ways by gluing and stitching. Have used simple patterns and templates for marking out. Understand how a key event/individual has influenced the development of the chosen product and/or fabric.	Key knowledge: When you 'bag it out' you need to have a seam allowance. In an ambitious/creative design, understanding the limitations of the materials you will be using needs to be considered e.g. can you translate your highly detailed design into a fabric 3D replica?
Key vocabulary: Textile, fabric, pattern, felt, binka, silk, cotton, wool, thread, cutting, gluing, stapling, sewing, material, fabric, design, draw, describe (step by step). First, next, after that, finally	Key vocabulary: Fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, pattern piece, brief, tested, user, purpose, design, sketch, label, aesthetics, pattern piece, prototype, functional, innovative	Key vocabulary: Running stitch, over stitch, wadding, template, embellishment, bag it out, right side, wrong side, anchoring and Seam allowance
Key skills: Share ideas, explore the feel of different materials. Cut and join fabrics with simple techniques. Design a functional product.	Key skills: Strengthen, stiffen and reinforce existing fabrics. To securely join two pieces of fabric together. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. Test their product against the original design criteria and with the intended user. Take into account others' views.	Key skills: I can produce even and effective stitching for over and running stitches I can attach beads and sequins securely When joining material (especially if they are fiddly), I use pins to hold the pieces of fabric together

	Generate realistic ideas through discussion and design criteria Produce annotated sketches, protype, final product sketches and pattern pieces	

Year 2	Year 3	Year 6
Prior learning: Explored and used different fabrics. Cut and joined fabrics with simple techniques. Thought about the user and purpose of products.	Prior 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.	Prior learning: Experience of basic stitching, joining textiles and finishing techniques. Experience of making and using simple pattern pieces.
Design: Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.	Design: Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. Produce annotated sketches, prototypes, final product sketches and pattern pieces.	Design: 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.
Make: Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics.	Make: Plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern	Make: 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. Work within the constraints of time, resources and cost.

Evaluate: Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria.	Evaluate: Investigate a range of 3-D textile products relevant to the project. Test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric.	Evaluate: 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.

Structures and mechanism are taught in the following years:

Year 1	Year 5	Year 6
Wheels and axles Moving pictures	Mechanical systems – Pulleys and gears	More complex switches and circuits- Design a quiz board
Key knowledge: Understand how to make a moving vehicle with axle and wheels. *Context: for a character from book* I can explore and describe a variety of moving wheels on toy cars and construction kits. To imagine and design a functional product. Share and record ideas against the original design. Understand how to make a picture with moving parts I can explore and describe a variety of moving parts in books To imagine and design a functional product. Share and record ideas against the original design.	Key knowledge: To be confirmed	Key Knowledge To know how a switch works with a flow of electricity and an interruption in the flow to make an on and off effect. To use different components e.g. buzzer bulbs Link to work in science about circuits (simple and parallel circuits.)
Key vocabulary: vehicle, wheel, axle, axle holder, chassis, body, cab, mechanism assembling, cutting, joining, shaping, finishing, fixed, free, moving, saw, dowelling, sandpaper design, make, evaluate, purpose, slider, lever, pivot, slot,	Key vocabulary: To be confirmed	Key Vocabulary: Wire, wire cutter, wire stripper, switch, electricity, circuit, full circuit, buzzer, bulb circuit, diagram

bridge/guide card, masking tape, paper fastener, join, pull, push, up, down,straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design criteria, product, function First, next, after that, finally,		
Key skills: Share ideas, explore wheeled toys at school and home. Make a functional product (vehicle for imaginary character). Share ideas, explore making moving parts using sliders, levers and wheels (in context of making a picture move) Make slider/lever/wheel with simple techniques. Make a functional product (Christmas card).	**Key skills:** To be confirmed	**Key skills:** To devise a series of questions with clear multiple-choice answers. To apply a circuit to the answer so that a yes is a full circuit and a no is an incomplete circuit. To test a circuit to see if it works. To be safe and use electricity safely.

Year 1	Year 5	Year 6
Prior learning: Assembled vehicles with moving wheels using construction kits. Explored moving vehicles through play. Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and finishing skills with card.	**Prior learning:** To be confirmed	**Prior Learning:** Understanding of the essential characteristics of a series circuit and experience of creating a battery-powered, functional, electrical product. Initial experience of using computer control software and an interface box or a standalone box, e.g. writing and modifying a program to make a light flash on and off.
Design: Generate ideas based on simple design criteria and their own experiences, explaining what they could make.	**Design:** To be confirmed	**Design:** Use research to develop a design specification for a functional product that responds automatically to changes in the

Develop, model and communicate their ideas through talking, mock-ups and drawings.		environment. Take account of constraints including time, resources and cost. Generate and develop innovative ideas and share and clarify these through discussion. Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.
Make: Plan by suggesting what to do next. Select and use tools, skills and techniques, explaining their choices. Select new and reclaimed materials and construction kits to build their structures. Use simple finishing techniques suitable for the structure they are creating.	Make: To be confirmed	Make: 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 an electrical product to work automatically in response to changes in the environment.
Evaluate: Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	Evaluate: To be confirmed	Evaluate: 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. Investigate famous inventors who developed ground-breaking electrical systems and components.