

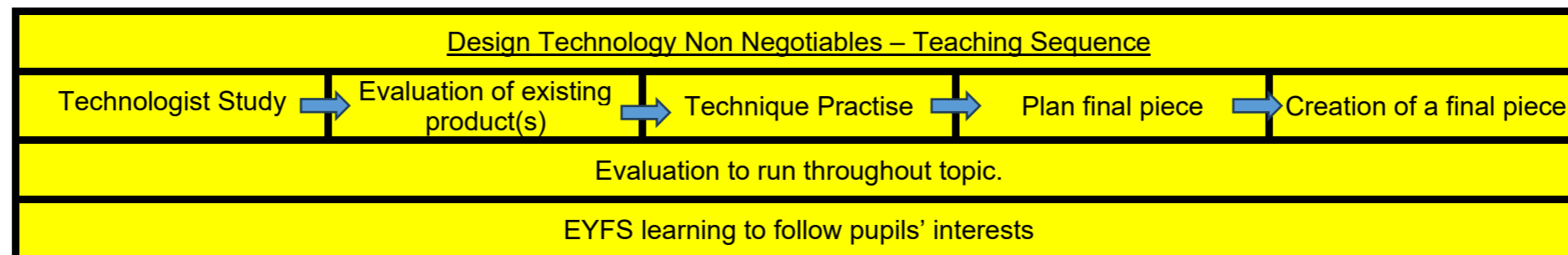
Design Technology

Design Technologists design products to fulfil design criteria.	Make Technologists use a variety of tools and methods to accurately make a product.	Evaluate Technologists accurately evaluate the strengths and weaknesses of their own and others' products.	Technical Knowledge Technologists use wider technical knowledge to inform the design, make and evaluate process.	Vocabulary Technologists use appropriate subject-specific vocabulary.
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	Design	Make	Evaluate	Technical Knowledge	Vocabulary
N	<p><u>Disciplinary Knowledge</u> Develop their own ideas and then decide which materials to use to express them.</p> <p><u>Substantive Knowledge</u> Explore different materials freely, to develop their ideas about how to use them and what to make.</p>	<p><u>Substantive Knowledge</u> Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Join different materials and explore different textures.</p>			→make, create, words linked to materials eg wood, paper, words linked to tools eg scissors, glue
Rec		<p><u>Disciplinary Knowledge</u> Create collaboratively, sharing ideas, resources and skills.</p>	<p><u>Disciplinary Knowledge</u> Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p>		→plan, make, material, words linked to materials eg wood, paper, words linked to tools eg scissors, glue
Year 1	<p><u>Disciplinary Knowledge</u> Select and explain their choice of materials, sometimes with help.</p> <p><u>Substantive Knowledge</u> Draw a simple picture of an intended design with basic labelling.</p>	<p><u>Disciplinary Knowledge</u> Select and explain why they have used a particular tool for a task. With help, put ideas into practice.</p> <p><u>Substantive Knowledge</u> Cut shapes from a range of fabrics and papers. Fold, tear, roll and cut paper and card. Cut accurately and safely with scissors. Join appropriately using glue or tape. Build simple structures. Measure and weigh food items using non-standard measures (e.g. spoons and cups).</p>	<p><u>Disciplinary Knowledge</u> Talk about their own and others' work identifying strengths or weaknesses.</p> <p><u>Substantive Knowledge</u> Describe others' work, including work by professional craftspeople and designers, and say what they like and dislike about it. Describe how an existing product works (e.g. 'the toy moves when I turn the handle').</p>	<p><u>Substantive Knowledge</u> Explain how to keep safe during a practical task. Identify the main food groups, including fruit and vegetables. Identify the source for common foods.</p>	<p>→planning, investigating, design, evaluate, make, user, purpose, ideas, product</p> <p>→fruit and veg names, utensil names, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients</p> <p>→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</p> <p>→template, pattern pieces, mark out, join, decorate, finish</p> <p>→slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards</p>
Year 2	<p><u>Disciplinary Knowledge</u> Choose appropriate materials and suggest ways of manipulating them to achieve a desired effect.</p> <p><u>Substantive Knowledge</u> Produce detailed, labelled drawings, templates, mock-ups and models of products based on design criteria. Use ICT packages to create a labelled design or plan.</p>	<p><u>Disciplinary Knowledge</u> Improve structures by making them stronger, stiffer or more stable. Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p><u>Substantive Knowledge</u> Cut, measure, form and shape materials. Join fabrics, eg using running stitch, glue, staples, oversewing and tape. Attach features to a vehicle (e.g. an axle and wheels or a sail and rudder). Join appropriately, with glue and/or tape, for different materials and situations. Create and use wheels and axles. Cut, peel, grate and chop a range of ingredients to make dishes from other countries.</p>	<p><u>Disciplinary Knowledge</u> Investigate a range of existing products and say if they do what they are supposed to do. Explain how finished products meet their design criteria and say what they could do better in the future.</p>	<p><u>Disciplinary Knowledge</u> Work safely and hygienically in construction and cooking activities.</p> <p><u>Substantive Knowledge</u> Explain where the food they eat comes from (e.g. by referring to countries, counties, animals and plants.) Describe why a designer, building or design is important.</p>	<p>→planning, investigating, design, evaluate, make, user, purpose, ideas, product, design criteria, function</p> <p>→fruit and veg names, utensil names, chopping board, knife names, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients</p> <p>→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</p> <p>→template, pattern pieces, mark out, join, decorate, finish</p> <p>→vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free moving, mechanism, names of tools, equipment and materials used</p>
Year 3	<p><u>Disciplinary Knowledge</u> Plan which materials will be needed for a task and explain why. Recognising that designs have to meet a range of needs, including being fit for purpose.</p> <p><u>Substantive Knowledge</u> Create a simple pattern for a design. Share ideas through words, labelled sketches and models. Make realistic plans, identifying processes, equipment and materials needed.</p>	<p><u>Disciplinary Knowledge</u> Select the appropriate tools and explain choices.</p> <p><u>Substantive Knowledge</u> Cut slots in cards and create nets. Join fabrics using a running stitch. Combine a variety of ingredients, using a range of cooking techniques.</p>	<p><u>Disciplinary Knowledge</u> Investigate the design features (including identifying components or ingredients) of familiar existing products. Explore how existing products function. Compare the form of existing products, noting their own preferences.</p> <p><u>Substantive Knowledge</u> Suggest improvements to products make and describe how to implement them (taking the views of others into account).</p>	<p><u>Disciplinary Knowledge</u> Follow health and safety rules for cooking and baking activities. Explain the impact of a design or designer on design history and how this has helped to shape the world.</p> <p><u>Substantive Knowledge</u> Describe what a balanced diet is. Identify food which comes from the UK and other countries in the world.</p>	<p>→user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, appeal</p> <p>→names of products, equipment, utensils, techniques, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury</p> <p>→shell, structure, 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</p>
Year 4	<p><u>Disciplinary Knowledge</u> Choose from a range of materials, showing an understanding of their different characteristics. Collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user.</p> <p><u>Substantive Knowledge</u> Use ICT packages to create alternatives for an initial design. Make realistic, step-by-step plans, reflecting on designs as the product develops.</p>	<p><u>Disciplinary Knowledge</u> Analyse the potential of a range of tools and use them with accuracy.</p> <p><u>Substantive Knowledge</u> Use more complex pop-ups. Prototype and build frame and shell structures, showing awareness of how to strengthen, stiffen and reinforce. Use pulleys, levers and linkages in their products. Build models incorporating circuits with buzzers, bulbs and motors. Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes.</p>	<p><u>Disciplinary Knowledge</u> Explain how an existing product is useful to the user. Explain the form and function of existing products.</p> <p><u>Substantive Knowledge</u> Identify what has worked well and what could be improved, evidencing and explaining the results of research.</p>	<p><u>Disciplinary Knowledge</u> Follow health and safety rules when working with materials and substances.</p> <p><u>Substantive Knowledge</u> Describe how a product could be made better, stronger or more sustainable. Make healthy eating choices and explain why.</p>	<p>→evaluate, design brief, design criteria, innovative, prototype, user, purpose, function, appeal, sensory evaluation</p> <p>→names of products, equipment, utensils, techniques, 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, varied diet</p> <p>→shell, structure, 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</p> <p>→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</p>
Year 5	<p><u>Disciplinary Knowledge</u> Use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and modelling, recognising that ideas have to meet a range of needs.</p> <p><u>Substantive Knowledge</u> Work from own detailed plans, modifying them where appropriate.</p>	<p><u>Disciplinary Knowledge</u> Select and combine materials with precision.</p> <p><u>Substantive Knowledge</u> Create a 3D product using a range of materials. Combine materials with temporary or fixed joints. Cut safely and accurately to a marked line. Use a glue gun with close supervision. Build a framework using a range of materials (e.g. wood, card and corrugated plastic) to support mechanisms. Use cams, gears, pulleys, levers and linkages in their products. Build models, incorporating switches to turn on and off. Monitor and control more than one output, in response to changes. Combine food ingredients appropriately (e.g. kneading, rubbing in and mixing). Apply understanding of computing to program, monitor and control products.</p>	<p><u>Disciplinary Knowledge</u> Investigate the design features (including identifying components or ingredients) of a familiar existing product in the context of the culture or society in which it was designed or made. Explain the form and function of existing products, using their knowledge to inform their own designs.</p> <p><u>Substantive Knowledge</u> Test and evaluate products against a detailed design specification and make adaptations as they develop the product.</p>	<p><u>Disciplinary Knowledge</u> Demonstrate how their products take into account the safety of the user.</p>	<p>→design decisions, functionality, authenticity, user, purpose, design specification, innovate, research, annotate, evaluate, mock-up, prototype</p> <p>→ingredients, yeast, dough, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p> <p>→frame, structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent</p> <p>→seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, names of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings</p> <p>→pulley, drive belt, gear, rotation, spinle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawing, exploded diagram, mechanical system, electrical system, input, process, output</p>
Year 6	<p><u>Disciplinary Knowledge</u> Choose the best materials for a task, showing an understanding of their working characteristics.</p>	<p><u>Disciplinary Knowledge</u> Use more complex tools with increasing accuracy.</p> <p><u>Substantive Knowledge</u></p>	<p><u>Disciplinary Knowledge</u> Use knowledge of form and function of familiar existing products to justify decisions made in their own design.</p>	<p><u>Disciplinary Knowledge</u> Research the work done by textile artists and say what they like about a piece, identifying the techniques and materials used in creating it and the aesthetic value.</p>	<p>→function, innovate, design specification, user, purpose prototype, annotated sketch, research, function, mock-up, prototype</p> <p>→ ingredients, yeast, dough, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins,</p>

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<p>Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. Use research to inform design criteria.</p> <p><u>Substantive Knowledge</u> Develop detailed criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross-sectional and exploded diagrams, prototypes and pattern pieces. Check work as it develops and modify their approach in light of progress.</p>	<p>Combine fabrics to create more useful properties and make a product of high quality, checking for snags and glitches. Join materials, using the most appropriate method for the materials or purpose. Use appropriate tools and equipment, weighing and measuring with scales.</p>	<p><u>Substantive Knowledge</u> Demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others.</p>	<p><u>Substantive Knowledge</u> Plan how they can have a healthy/affordable diet. Explain how ingredients were grown, reared, caught and processed. Demonstrate an understanding of food seasonality. Describe how an individual in the field of design and technology has helped shape the world.</p>	<p>nutrients, nutrition, healthy, varied, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, gluten, dairy, allergy, intolerance, savoury, source, seasonality →frame, structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent →seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, names of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings</p>
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Nursery

Construction Area: Children have access to a wide variety of construction resources where they can build, join, stack, balance and adapt their own constructions.

Creative Area: children have the opportunity to use a variety of tools and techniques and processes and select and combine using a variety of materials.

Fine Motor Activities: We use tools and techniques used for design and technology such as scissors, punches, threading, sewing, hammering to develop those all important fine motor skills.

Large loose parts construction: inside and outside, the children have access to a wide variety of large scale resources such as, crates, drain pipes, tubes & planks giving them the opportunity to design make, adapt, problem solve, modify and put structures to the test together alongside their peers.

Cooking opportunities: the children are given the opportunity to explore and make with food.

Make things move - not just vehicles but pulleys, water and balls, using guttering to slide cars and balls down.

Squash and squeeze materials - clay, dough, wet sand

Explore natural phenomena such as floating and sinking, magnetism, shadows and the effects of wind (via outside play and Forest School)

Fold, cut and decorate - including paper, card, fabric.

Reception

Construction Area: Children have access to a wide variety of construction resources where they can build, join, stack, balance and adapt their own constructions.

Creative Area: children have the opportunity to use a variety of tools and techniques and processes and select and combine using a variety of materials.

Fine Motor Activities: We use tools and techniques used for design and technology such as scissors, punches, threading, sewing, hammering to develop those all important fine motor skills.

Large loose parts construction: inside and outside, the children have access to a wide variety of large scale resources such as, crates, drain pipes, tubes & planks giving them the opportunity to design make, adapt, problem solve, modify and put structures to the test together alongside their peers.

Cooking opportunities: the children are given the opportunity to explore and make with food.

Make things move - not just vehicles but pulleys, water and balls, using guttering to slide cars and balls down.

Squash and squeeze materials - clay, dough, wet sand

Explore natural phenomena such as floating and sinking, magnetism, shadows and the effects of wind (via outside play and Forest School)

Fold, cut and decorate - including paper, card, fabric.

<p>Autumn 1 Construction – Duplo and larger loose parts, large outdoor equipment eg planks, tyres (teacher directed) Shadows Effects of the wind Hand over hand scissor use</p>	<p>Autumn 2 Construction – Duplo and larger loose parts, large outdoor equipment eg planks, tyres (teacher directed) Vegetable printing for Christmas cards Marble rolling for Christmas calendars Hand over hand scissor use</p>	<p>Spring 1 Construction – Duplo and larger loose parts, large outdoor equipment eg planks, tyres (self directed) Finger painting (fine motor) for Easter cards Gingerbread men – cooking Squeezy loop scissors</p>	<p>Spring 2 Construction – Duplo and larger loose parts, large outdoor equipment eg planks, tyres (self directed) Crispy cakes – cooking Floating and Sinking Squeezy loop scissors</p>	<p>Summer 1 Construction – Lego and smaller loose parts Cutting/sticking, stencils for Fathers' day cards Safety scissors</p>	<p>Summer 2 Construction – Lego and smaller loose parts Magnetism Safety scissors</p>
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Year 1

Design Technology

Topic 1	Key Discipline: After the Fall (Egg Safety) Egg boxes to protect an egg during egg drop.	Technologist: Volvo (air bags)	Key Vocabulary: join, decorate, finish, structure, framework, weak, strong, base, edge, surface, thinner, thicker. planning, investigating, design		
L1: Learn how to describe others' work. (Vehicle Safety Mechanisms)	L2: Learn how an existing product works.	L3: Learn to select appropriate materials, and explain my choices.	L4: Learn how to draw a simple intended design.	L5: Learn how to make a product by cutting, folding and joining.	L6: Learn how to build a simple structure that meets design criteria.
Topic 2	Key Discipline: Levers – Pop ups A pop-up picture with a paper fold – table, spring or v-fold	Technologist: Ingrid Siliakus	Key Vocabulary: planning, investigating , evaluate , make , purpose, product , template, mark out , v-fold, table fold, spring		
L1: Learn how to describe others' work and say what they like and dislike about it.	L2: Learn how an existing product works, and use this to inform design criteria.	L3: Learn how to cut paper and card accurately.	L4: Learn how to draw a simple picture of an intended design with basic labelling.	L5: Learn how to create a product following my design, by cutting, folding and joining appropriately.	L6: Learn how to create a product that meets design criteria, and is attractive to the user.
Topic 3	Key Discipline: Food – Fruit Kebabs A fruit kebab with a variety of fruit	Technologist: Mary Berry	Key Vocabulary: grains, protein, dairy, fats, sugars, fruit kebab, healthy, food source, carbohydrates		
L1: Learn how to describe others' work and identify what makes it successful.	L2: Learn the sources of common foods	L3: Learn the main food groups, including fruits and vegetables.	L4: Learn how to keep safe during a practical task.	L5: Learn how to a simple labelled picture of an intended design which meets a simple design criteria.	L6: Learn how to create a product safely, which meets design criteria and is appealing to target audience.
Year 2					
Topic 1	Key Discipline: Textiles – Puppets A hand puppet of a historical figure (Samuel Pepys), with an overstitch	Technologist: Jim Henson	Key Vocabulary: marionette, sock puppet, hand puppet, finger puppet, rod puppet, felt, running stitch, over stitch, design criteria, join		
L1: Learn why a key designer is important in their field.	L2: Learn how to produce detailed, labelled drawings of existing products.	L3: Learn how to accurately cut fabrics, and join using glue.	L4: Learn how to join two fabrics together using overstitch.	L5: Learn how to select appropriate materials, and produce a design which is based on specific design criteria.	L6: Learn how to accurately cut, shape and join fabrics.
Topic 2	Key Discipline: Vehicles – Fire Engines A fire engine with wheels, axis, chassis	Technologist: Dennis Specialist Vehicles	Key Vocabulary: design criteria, succeed, improvement, vehicle, windscreen, wing mirrors, equipment, axle, chassis, body		
L1: Learn why a key design is important historically.	L2: Learn to evaluate existing products, using this to produce design criteria.	L3: Learn how to attach wheels, axles and chassis successfully.	L4: Learn to produce designs based on design criteria, and choose appropriate materials.	L5: Learn how to attach features to a vehicle body to create a functional vehicle.	L6: Learn how to adapt the form of a product to suit design criteria.
Topic 3	Key Discipline: Food from Around the World – Pizza A pitta-pizza with sauce, cheese and a topping	Technologist: Michele Pascarella	Key Vocabulary: national, preference, like, dislike, country of origin, samosa, panettone, mango, design brief, specification, final design, target audience, hygiene, evaluate, design criteria, nutritional values		
L1: Learn how a key designer creates products which appeal to a target market.	L2: Learn the locational origins of common foods.	L3: Learn to evaluate foods from a variety of different countries through explaining likes and dislikes.	L4: Learn to evaluate a selection of existing products (pizzas), by comparing them to design criteria.	L5: Learn to produce labelled designs based on design criteria, justifying their choices.	L6: Learn how to work safely and hygienically to create a pizza.
Year 3					
Topic 1	Key Discipline: Textiles - Money Containers A fabric money container (with a button and a running stitch)	Technologist: Louis Vuitton	Key Vocabulary: money container, oversew, running stitch, backstitch, fastenings, evaluation, calico, hook and eye		

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L1: Learn that designs have to meet a range of needs, including being fit for purpose.	L2: Learn to investigate and describe the design features (including components) of familiar existing products.	L3: Learn to join fabrics using a running stitch	L4: Learn to create a simple pattern to inform our design.	L5: Learn to join fabrics to make a product which meets design criteria.	L6: Learn to embellish fabrics to ensure my product meets design criteria and is attractive to the consumer.
Topic 2	Key Discipline: Food – Chocolate <i>A chocolate slab (choice of chocolate, swirls and a selection of toppings)</i>	Technologist: John Cadbury	Key Vocabulary: Cadbury, confectionary, chocolatier, designer, utensils, techniques, ingredients, appearance, preference, success criteria, health and safety procedures.		
L1: Learn to explain the impact of a design or designer on design history and how this has helped to shape the world.	L2: Learn to investigate and describe the design features (including ingredients) of familiar existing products, and use these to form design criteria.	L3: Learn what a balanced diet is.	L4: Learn to design flexibly through thoughts, labelled drawings and models.	L5: Learn to add detail to realistic plans, identifying processes, equipment and materials needed.	L6: Learn to use a range of cooking techniques to combine ingredients and create a finished product.
Topic 3	Key Discipline: Woodwork – Picture Frame <i>A wooden picture frame (measured, cut (mitred) and glued)</i>	Technologist: Thomas Chippendale	Key Vocabulary: prototype, purpose, evaluate, user, function, functional, design criteria, assemble, width, appeal, structure		
L1: Learn how a design or designer has helped to shape the world, and how modern designs are influenced by history.	L2: Learn to investigate and describe the design features of familiar existing products, comparing two designs against design criteria.	L3: Learn to create a prototype of a design.	L4: Learn to accurately select appropriate tools, explaining their choices and using these to create a final product.	L5: Learn to cut, mitre and glue wood to create a final product.	L6: Learn how to adapt my design to overcome problems or take the views of others into account.
Year 4					
Topic 1	Key Discipline: Mechanical Systems – Moving Picture Cards <i>A moving Christmas card (with 2 pivots (fixed and loose))</i>	Technologist: David Hawcock	Key Vocabulary: sliders, slits, tab, lever, loose pivot, fixed pivot, wheel mechanism, annotation		
L1: Learn how to research information from a number of different sources and use this information to inform design ideas.	L2: Learn to explain how an existing product is useful to the user.	L3: Learn to select tools by analysing their potential, using them with accuracy.	L4: Learn to make realistic, step-by-step plans.	L5: Learn to accurately choose from a range of materials to build a product that uses linkages and levers.	L6: Learn to adapt my final product to successfully meet design criteria.
Topic 2	Key Discipline: Food – Farm to Fork – Savoury Scones <i>A handmade savoury scone (with optional fruit)</i>	Technologist: Delia Smith	Key Vocabulary: nutrition, calories, market research, target market, branding, durability, criteria, eye-catching, catchy		
L1: Learn how to research and collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models.	L2: Learn to compare existing products, explaining successes and weaknesses in terms of usefulness to the user.	L3: Learn what constitutes a healthy eating choice.	L4: Learn to make realistic, step-by-step plans, reflecting on designs as the product develops.	L5: Learn health and safety rules for working with materials and substances, and how to follow these.	L6: Learn to measure and weigh ingredients appropriately to prepare and cook a savoury dish.
Topic 3	Key Discipline: Electricity – Alarms <i>A burglar alarm (with a buzzer, simple series circuit and a handmade switch)</i>	Technologist: Yale	Key Vocabulary: activate, detect, push-to-break switch, push-to-make switch, sliding switch, on/off switch, complete circuit, incomplete circuit, sensor		
L1: Learn to use information from a range of sources to inform labelled sketches, diagrams and model designs, justifying my choices.	L2: Learn to use successes and weaknesses of existing products to inform my own design.	L3: Learn to build prototypes incorporating circuits with buzzers, bulbs and motors.	L4: Learn to make realistic, step-by-step plans, identifying possible opportunities for design modifications.	L5: Learn to build an alarm circuit with buzzers, bulbs and motors.	L6: Learn to build, strengthen, stiffen and reinforce frame and shell structures.

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Year 5					
Topic 1	Key Discipline: Electrical Systems – Light Boxes A light box (featuring a switch circuit and a net structure)	Technologist: Thomas Eddison	Key Vocabulary: filament, components, light box, front-lit, illuminated, LED, decorative, copper tape, design criteria, sturdy, research		
L1: Learn to identify and use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and modelling.	L2: Learn the design features of existing light boxes, and use this to independently create a design criteria.	L3: Learn to test and evaluate products against a detailed design specification and make adaptations as they develop the product.	L4: Learn how to create a plan, using labelled sketches, cross-sectional diagrams and modelling.	L5: Learn to build models, incorporating switches to turn on and off. Learn to monitor and control more than one output, in response to changes.	L6: Learn to build a framework using a range of materials (e.g. wood, card and corrugated plastic) to support mechanisms.
Topic 2	Key Discipline: Mechanical Systems – Moving Toys A fairground ride (with cams or pulleys)	Technologist: George W Ferris	Key Vocabulary: mechanism, cam, gears, adjust, rotation, shaft, axel, joint, dowel, follower, assemble, guide, motion, framework, components		
L1: Learn the design features of a familiar existing product in the context of the culture or society in which it was designed or made.	L2: Learn to create and test cams, gears, pulleys, levers and linkages with reference to product specification.	L3: Learn how to create a plan for my fairground ride, using labelled sketches, cross-sectional diagrams and modelling, recognising that ideas have to meet a range of needs.	L4: Learn to use cams, gears, pulleys, levers and linkages in their products.	L5: Learn to test and evaluate products against a detailed design specification and make adaptations as they develop the product.	L6: Learn to build a framework using a range of materials (e.g. wood, card and corrugated plastic) which satisfies design criteria and is attractive to the user.
Topic 3	Key Discipline: Food – Bread Individual bread rolls (hedgehog)	Technologist: Paul Hollywood	Key Vocabulary: combine, fold, knead, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition		
L1: Learn to use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and modelling, recognising that ideas have to meet a range of needs.	L2: Learn about food seasonality and investigate existing products.	L3: Learn how to translate previous research into an informed, individual design criteria.	L4: Learn how to use appropriate tools and equipment, weighing and measuring with scales.	L5: Learn to combine food ingredients appropriately (e.g. kneading, rubbing in and mixing).	L6: Learn to adapt designs 'in the moment' to address difficulties or peer feedback while addressing design criteria.
Year 6					
Topic 1	Key Discipline: Textiles – Hanging decorations A Christmas decoration (stuffed, with blanket, running cross and back stitch)	Technologist: Gisella Graham	Key Vocabulary: template, running stitch, blanket stitch, cross stitch, back stitch, pattern, measurements, joining, cast off, independent		
L1: Learn to describe the work done by textile artists and say what they like about a piece, identifying the techniques and materials used in creating it and the aesthetic value.	L2: Learn to explain the form and function of existing products.	L3: Learn to develop detailed criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross-sectional and exploded diagrams.	L4: Learn to join fabrics, choosing and using the most appropriate stitching for the materials or purpose.	L5: Learn to combine fabrics to create more useful properties and make a product of high quality.	L6: Learn to combine fabrics to create more useful properties and make a product of high quality, checking for snags and glitches.
Topic 2	Key Discipline: Structures – Shelters A shelter to protect themselves from extremes (wooden, independently cut, glued and decorated)	Technologist: William Paterson and Oscar Carl Kerrison	Key Vocabulary: structure, mechanism, purpose, making process, components, sculpture, free-standing, flange, I brace, tabs, hacksaw, dowel		
L1: Learn how an individual in the field of design and technology has helped shape the world.	L2: Learn how to use independent research to inform a personalised design criteria.	L3: Learn how to select the most appropriate materials and frameworks for different structures, explaining what makes them strong.	L4: Learn how to join a variety of independently-chosen materials, using the most appropriate method for the materials or purpose.	L5: Learn how to join independently-selected materials, adapting choices to the most appropriate method for the materials or purpose.	L6: Learn to demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others.

Design Technology

Topic 3	Key Discipline: Food – Pastry A pastry (independently mixed, rolled and filled)	Technologist: Dr. Ruben Rausing	Key Vocabulary: savoury, form, function, affordable, seasonal, mock-up, varied, utensils, allergy		
L1: Learn how an individual in the field of design and technology has helped shape the world, and how their products have influenced existing products today.	L2: Learn to plan how they can have a healthy/affordable diet.	L3: Learn how ingredients were grown, reared, caught and processed. Learn to demonstrate an understanding of food seasonality.	L4: Learn how to use independent research to inform a personalised design criteria, justifying my choices.	L5: Learn to accurately use appropriate tools and equipment, weighing and measuring with scales.	L6: Learn to combine food ingredients independently, using a successful method.