

DT Progression of Knowledge

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education make an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook

DT Rationale

The study of Design and Technology at Thomas Hickman will enable children to develop the knowledge, skills and creativity needed to design and make purposeful products. Children will gain a comprehensive range of practical skills and techniques which are sequentially built upon, allowing them to work with increasing accuracy, independence and confidence. Through the areas of structures, mechanisms, textiles, food and digital design, pupils will investigate existing products, explore materials and components, develop and communicate ideas, and create products for a clear purpose and user.

At Thomas Hickman, we recognise the importance of providing our children with an abundance of opportunities and experiences through Design and Technology. Our curriculum provides meaningful opportunities to handle tools, explore materials, prepare and cook food, investigate real products and experience the process of designing and making. These experiences broaden children's understanding of the designed world around them and provide opportunities they may not otherwise encounter, helping them to develop confidence, curiosity and ambition.

Children will learn to select and use appropriate tools, materials and techniques, applying their substantive and disciplinary knowledge to solve practical problems. They will test, evaluate and refine their work throughout the design and making process, developing resilience, problem-solving and critical thinking. Children will also explore how significant designers, inventions, culture and technological developments have influenced products and society. Oracy is an important element of our DT curriculum, as children explain and justify their design choices, evaluate products and respond to feedback. Links to other curriculum areas, particularly science, mathematics, computing, history and art, provide meaningful contexts in which children can apply and deepen their learning.

Enquiry in DT

Enquiry is embedded throughout our DT curriculum. Children are encouraged to investigate existing products, ask questions, explore and test ideas, solve problems and use their findings to make informed design decisions. Through designing, making, testing and refining, pupils learn that successful products are developed through an iterative process of enquiry and improvement.

Substantive knowledge is the subject-specific content of Design and Technology (DT), which is taught through investigation, research and practical application. Substantive knowledge covers a range of topics, including materials and their properties, structures, mechanisms, electrical systems, textiles, cooking and nutrition, and the work of significant designers and inventors. Substantive knowledge is progressive; built upon year after year through procedural knowledge and complemented by the learning of disciplinary knowledge.

Disciplinary knowledge of DT incorporates the discrete skills and techniques (components) which are explicitly taught in reference to the principles of Design and Technology. These include designing, making, testing, evaluating and improving products for a specific purpose or user. Disciplinary knowledge also refers to the investigation and analysis of existing products, the selection and use of appropriate tools, materials and techniques, and the technical vocabulary used to explain, evaluate and justify design decisions.

National Curriculum Programmes of Study

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Pupils should be taught:		Pupils should be taught about:			
By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. **(Maestro)**	• design purposeful, functional, appealing products for themselves and other users based on design criteria. • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria • 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 research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • apply their understanding of computing to program, monitor and control their products. • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.		

	• use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from.	

Termly Units

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	Shade and Shelter This project teaches children about the purpose of shelters and the materials used to make them. They investigate different shelters, make prototypes and use their learning to design and construct a play den.	Remarkable Recipes This project teaches children about where food comes from, food preparation and why some foods are cooked. They learn to use appropriate tools, read simple recipes and use their learning to design and make a healthy school meal.	Cook Well, Eat Well This project teaches children about healthy, balanced diets and different methods of cooking. They develop food preparation and cooking skills before using their learning to design and make a taco filling to meet specific design criteria.	Fresh Food, Good Food This project teaches children about food decay, preservation and packaging. They investigate how packaging protects food, develop their ideas through diagrams and prototypes, and prepare, package and evaluate a healthy snack.	Moving Mechanisms This project teaches children about pneumatic systems and how they can be used to create movement. They investigate and experiment with mechanisms before designing, constructing and evaluating a moving product that incorporates a pneumatic system.	Food project This project develops children's understanding of food preparation and cooking. They select and source ingredients, follow increasingly complex recipes and use a range of preparation and cooking techniques to create and evaluate a finished dish.
Spring	Taxi This project teaches children about wheels, axles and chassis and how they work together to make a vehicle move. They investigate different wheel and axle arrangements before designing and	Cut, Stitch and Join This project teaches children about fabric products, sewing patterns and the work of the British brand Cath Kidston. They learn to join fabric using running stitch and add embellishments	Making It Move This project teaches children about mechanical systems and how cams create movement. They investigate different cam shapes and mechanisms before designing and constructing a	Textiles / William Morris This project teaches children about textile products, pattern and decorative design. They explore designs inspired by natural forms and develop printing and textile	Eat the Seasons This project teaches children about seasonality and the benefits of using seasonal ingredients. They develop food preparation and cooking techniques before designing and	Structures project This project teaches children how structures are designed for different purposes and how materials and frameworks affect their strength. They investigate structural solutions before

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	making their own simple moving vehicle.	before designing and making a sewn bag tag.	moving product incorporating cams and followers.	techniques before designing and making their own textile product.	making a healthy seasonal dish.	designing, constructing, testing and refining their own structure.
Summer	Chop, Slice and Mash This project teaches children about where food comes from and develops the preparation techniques of peeling, tearing, slicing, chopping, mashing and grating. They use these skills to design and make a supermarket sandwich to meet specific design criteria.	Beach Huts This project teaches children about structures and how they can be made stronger, stiffer and more stable. They investigate construction methods and develop woodworking skills before designing, making and evaluating their own beach hut.	Greenhouses This project teaches children about the purpose, structure and design features of greenhouses. They compare significant greenhouse designs, learn techniques for strengthening structures and use tools safely before designing and constructing a mini greenhouse.	Tomb Builders This project teaches children about simple machines and how mechanisms can make it easier to move heavy loads. They investigate wheels and axles, inclined planes, pulleys and levers before applying their learning to design and construct a mechanical solution.	**Architecture** This project teaches children how architectural styles and technologies have developed over time and how culture and society can influence the design of buildings. Children investigate Greek architecture, explore ways to strengthen and reinforce structures, and use computer-aided design to develop their ideas. They then design and construct a building with specific features, selecting and combining materials with	Make Do and Mend This project teaches children about repairing, recycling and repurposing textiles, linked to the Second World War Make Do and Mend campaign. They deconstruct garments, develop sewing and repair techniques and use their skills to alter or repurpose existing textiles.

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					precision, before testing and evaluating it against their design criteria.	

EYFS

ELGs: Expressive arts and design is one of the seven areas of the early years foundation stage and is used to develop a child's imagination, creativity and their ability to use media and materials. Children do this in range of ways including singing songs and making music, dancing, playing with colours, textures and design.

- Imagination and creativity
- Self-expression
- Communicating through the Arts

Adapting the curriculum for pupils with SEND in Design and Technology

- Adaptive teaching takes place.
- No size fits all, and knowledge of the learners' needs, strengths and interests is key.
- Physical disabilities can make holding and using tools, equipment and materials difficult, and may affect a learner's ability to cut, join, shape, construct or prepare food. Tools, materials and methods should therefore be carefully considered and adapted where appropriate.
- Visual differences can impact how learners interpret designs, diagrams, models and demonstrations, as well as how safely and accurately they use tools and materials.
- Sensory sensitivities, particularly around touch, texture, smell and taste, can impact a learner's enjoyment of and engagement with materials, textiles and food technology activities.
- Learning disabilities may impact a learner's ability to understand subject-specific vocabulary, follow sequences or remember practical processes. Instructions, demonstrations and design processes may need to be broken into manageable steps.
- Fine and gross motor difficulties may affect accuracy and control when measuring, marking, cutting, joining and manipulating materials. Appropriate tools, additional practice and alternative methods should be provided where needed.

End points:

By the end of EYFS, children will: explore using a range of media. Explore cutting, sticking, joining, wrapping, weaving, and ways of applying paint. They can share and talk about what they have made and how they have made it.

By the end of KS1, children will: design purposeful products for themselves and others based on simple design criteria. They can generate and communicate their ideas through drawing, talking, templates and models. They can select and use a range of tools, equipment and materials safely to cut, shape, join and finish. They can construct simple structures and mechanisms and prepare food using appropriate techniques. They can explore and evaluate existing products and talk about what they have made, identifying what works well and how it could be improved.

By the end of KS2, children will: design purposeful and functional products using research and clear design criteria. They can generate, develop and communicate their ideas using annotated sketches, diagrams, prototypes and computer-aided design where appropriate. They select and use a range of tools, materials, components and techniques with increasing accuracy and precision. They apply their practical skills to construct structures, mechanisms, textiles and food products for different purposes. They test and evaluate their products against their design criteria and the needs of the intended user, adapting and refining their work to improve its function and quality.

Substantive knowledge

Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Recognise that objects can be made for different purposes and that materials can be chosen for what they need to do. • Understand that materials can feel, look and behave differently. • Recognise that constructions can be joined in different ways and need to stand securely. • Understand that tools have different purposes and should be used safely. • Develop an understanding that food comes from different sources and that cleanliness is important when handling food.	• Understand that everyday products are designed for a specific purpose and that two products can be compared against a set of criteria. • Recognise that a shelter is a structure that provides protection and may be permanent or temporary. • Understand that design criteria are the explicit goals that a project must achieve. • Recognise that different materials are suitable for different purposes because of their properties; structures need strong, sturdy supports that are securely joined. • Understand that an axle passes through the centre of a wheel to connect wheels, and that wheels and axles can be attached to a chassis in different ways. • Recognise that foods come from plant and animal sources. • Understand that specific food-preparation tools have particular purposes, including knives for slicing/chopping, graters for grating, peelers for peeling and mashers for crushing. • Recognise that handwashing and good hygiene help prevent the spread of germs, and that safety rules help protect people during practical tasks. • Understand that non-standard measures can be used to measure	• Understand that food comes from plant and animal sources and recognise the origins of a range of common foods. • Recognise that ingredients may need preparing before eating or cooking and that different tools have characteristics that make them suitable for particular purposes. • Understand that hygiene rules include washing hands, cleaning surfaces, tying back long hair, storing food appropriately and wiping up spills. • Recognise that ideas can be communicated through written work, drawings, diagrams, modelling, speaking and information and communication technology. • Understand that a healthy diet contains a balance of different types of food. • Recognise that products can be improved by making them easier to use, more hardwearing or more attractive, and can be compared according to their characteristics and purpose. • Understand that a brand identifies a seller's products or services and recognise Cath Kidston as an influential British home-products brand. • Recognise that a sewing pattern is a template of the parts needed to make a garment or product. • Understand that running stitch is used to join fabric	• Understand that a balanced diet includes five main food groups and that humans need the right types and amounts of nutrition. • Recognise that food can be prepared and cooked in different ways and that ingredients and dishes can be chosen to meet design criteria. • Understand that key inventions and individuals in Design & Technology can change the way people live. • Develop knowledge of mechanical systems and how components can create or control movement. • Understand that levers rotate around a fulcrum, sliders move in a straight line and axles allow wheels to rotate. • Recognise that cams convert rotary movement into different forms of movement and that changing a cam's shape changes the movement produced. • Understand that frame structures are made from joined components and that structural stability depends on the way components are arranged and joined. • Recognise that diagonal struts can strengthen and stabilise a framework. • Understand that materials and construction methods are selected according to the intended purpose of a structure.	• Understand that significant designers and inventors can shape the world. • Recognise that food packaging helps keep food fresh; a 'use by' date identifies when food is no longer safe to eat, while a 'best before' date indicates when quality may begin to decline. • Understand that food deteriorates because of microorganism growth and that decay can be delayed through drying, salting, pickling, canning, pasteurising, refrigerating and freezing. • Recognise that particular areas of the world have conditions suited to growing particular crops. • Understand that design features are aspects a designer chooses to emphasise, such as material choice, ease of use or durability. • Recognise that annotated sketches and exploded diagrams communicate specific parts, functions and details of a design. • Understand that a prototype is a mock-up used to represent and develop a design and may differ in size or materials from the finished product. • Develop knowledge of textile construction and decorative design, including the influence of designers and natural forms; recognise William Morris as a significant British designer	• Understand that culture includes the language, inventions, ideas and art of a group of people, and that culture and society can influence the design of products and buildings. • Recognise that the design of a product should take account of its target audience and cultural context. • Understand that pneumatic systems use compressed air to create and control movement. • Recognise that frameworks can be supported using cross braces, guy ropes and diagonal struts, and that triangular shapes, columns and overlapping patterns can provide support, stiffness and stability. • Understand that materials and components should be selected according to their functional properties and aesthetic qualities. • Recognise that a pattern piece is a drawing or shape used to guide how something is made. • Understand that computer-aided design (CAD) uses specialised software to design objects, allows designs to be changed easily and can support accurate manufacture. • Recognise that architectural styles and technologies develop over time and reflect the culture and society in which buildings are designed; the	• Understand that new inventions and designs can significantly improve people's lives; recognise the Morrison shelter, designed by John Baker in 1941, as an example. • Recognise that clothes rationing was introduced in Britain in 1941 to reduce the labour and materials used for clothing so resources could support the war effort. • Understand that the Make Do and Mend campaign was run by the Ministry of Information to encourage people to recycle and repurpose old clothes rather than buy new. • Recognise that deconstructing a garment can reveal how it was made, the materials used and their properties. • Understand that precision, correct tool selection and careful measurement contribute to a polished finished product in which parts fit together correctly. • Develop knowledge of hand stitches, including running stitch, blanket stitch and whip stitch. • Understand that pinning with dressmaker pins and tacking with temporary stitches hold fabric together in preparation for and during sewing. • Recognise that the working characteristics of materials - including flexibility, waterproofing, texture, colour, cost and

Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	ingredients and that fruit and vegetables are an important part of a healthy diet. • Recognise that a strength is a good quality of a product and a weakness is an area that could be improved.	and that embellishment is a decorative detail added to make a product more attractive. • Recognise that the properties of components and materials affect how they can be used. • Understand that structures can be made stronger, stiffer and more stable by choices such as using stronger materials, triangular shapes and a broader base. • Recognise the purposes of woodworking tools including a junior hacksaw, bench hook and G-clamp.		associated with nature-inspired pattern. • Understand that simple machines can make tasks easier by changing the size or direction of a force. • Recognise how wheels and axles, inclined planes, pulleys and levers can be used to move loads and perform functions.	school project applies these objectives through Tudor architecture. • Understand that testing a product against design criteria can identify the need for improvement or redesign and that changes are often made during manufacture. • Understand seasonality and recognise benefits of seasonal food, including freshness, reduced transport, support for local growers and potentially lower cost. • Recognise that food hygiene helps prevent the spread of disease-causing microorganisms and that foods can be prepared and cooked in different ways to achieve different results. • Understand that a balanced diet provides the nutrients the body needs and requires a wide variety of foods in appropriate proportions.	availability - affect their suitability for a task. • Understand that different structures require appropriate materials and frameworks and that material and framework choices affect strength. • Develop knowledge of the food-preparation and cooking methods required by a recipe and recognise that ingredients may need to be sourced independently.

Disciplinary Knowledge

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Explore materials and techniques when representing ideas. Use drawing, modelling and construction to develop an idea.	Explore existing products and use observations to help generate simple design ideas. Create and communicate designs through drawing, talking and modelling to meet simple design criteria.	Investigate existing products and use findings to inform design ideas. Generate and communicate ideas through drawings, diagrams, templates, models and other appropriate methods.	Research and investigate existing products to help develop design criteria. Develop and communicate ideas using annotated sketches, diagrams and models.	Use research into existing products, designers and users to inform design criteria and design decisions. Communicate and develop ideas through annotated sketches, exploded diagrams and prototypes.	Use research into existing products, users, culture and purpose to develop design criteria and inform design decisions. Generate, develop and communicate ideas using annotated sketches, diagrams, prototypes and pattern pieces, and use CAD to create and modify designs.	Carry out increasingly detailed research into existing products and users to inform design decisions and develop design criteria. Generate, compare, communicate and refine ideas using appropriate methods, including detailed drawings, diagrams, patterns and prototypes.
Make	Explore cutting, shaping, joining and combining materials. Use simple tools safely and with developing control.	Select and use simple tools to cut, shape and join materials. Assemble materials and components to	Select appropriate tools for different practical tasks. Measure, mark, cut, shape and join materials with increasing control. Use templates and	Select and safely use appropriate tools for cutting, shaping and joining materials and components.	Select and use appropriate tools for cutting, shaping, joining and finishing materials. Measure, mark	Select appropriate tools, materials and components for a practical task. Measure, mark, cut, shape	Independently select appropriate tools and materials according to the task. Measure,

		create structures and moving products.	patterns when cutting materials.	Measure and work with increasing accuracy.	and work with increasing accuracy and control.	and combine materials with precision.	mark, cut, join and finish materials with increasing precision and control.
Evaluate	Talk about what has been made and identify simple changes that could be made.	Test finished products and identify strengths, weaknesses and simple improvements. Compare simple products and constructions.	Compare existing and finished products, identifying successful features and suggesting improvements.	Test products and mechanisms against their intended purpose and make adjustments to improve their operation.	Test prototypes and finished products and use findings to make purposeful improvements. Compare products systematically to inform decisions.	Test products against detailed design criteria and make adaptations during manufacture. Gather and compare user feedback to inform improvements.	Evaluate throughout the design and making process. Use systematic testing and comparison to identify, justify and demonstrate modifications to products.
Technical	Explore ways of joining materials and making constructions stand, balance and move.	Construct simple structures and use techniques to make them stronger, stiffer and more stable. Construct and use wheels and axles to create movement.	Apply techniques for strengthening, stiffening and stabilising structures. Join and position components accurately to create functional products.	Construct frame structures and use diagonal struts to strengthen and stabilise them. Construct cams and followers, experimenting with cam shapes to create different movements.	Strengthen and reinforce structures using appropriate construction techniques. Construct and combine wheels and axles, inclined planes, pulleys and levers to achieve movement.	Build and reinforce frameworks using techniques including cross-bracing and diagonal struts. Construct and incorporate pneumatic systems to create controlled movement.	Select and apply appropriate structural and construction techniques when making more complex products. Apply previously learned joining, strengthening and reinforcing

							techniques accurately.
Food	Mix, spread and combine ingredients. Use simple food-preparation tools safely with support.	Peel, tear, slice, chop, mash and grate ingredients. Measure using simple/non-standard measures and combine ingredients safely.	Peel, grate, chop and slice ingredients with increasing control. Select and use appropriate food-preparation utensils and follow a simple recipe.	Peel, chop, deseed, slice, dice, grate, mix and skin ingredients. Use appliances safely with adult supervision and prepare and cook a simple savoury dish.	Prepare and combine ingredients with increasing accuracy. Apply appropriate preparation and cooking techniques, including baking, boiling, frying, grilling and roasting where taught.	Select and use appropriate preparation and cooking techniques with increasing accuracy and independence. Measure, prepare and combine ingredients accurately to produce a finished dish.	Chop, slice, dice, knead and mash ingredients with increasing precision. Apply boiling, roasting, frying and baking techniques and follow recipes involving multiple techniques with increasing independence.

What this looks like at THS

Design	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	**Designing shelters** **P. of Study** Design and technology Year 1 Design purposeful, functional, appealing products for themselves and other users based on design criteria. *Also developed in: Designing a play den; Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make); Design a sandwich* **P. of Study** Design and technology Year 1 Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. *Also developed in: Designing a play den; Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make); Design a sandwich* **Knowledge** Year 1 Design criteria are the explicit goals that a project must achieve. *Also developed in: Designing a play den; Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make); Design a sandwich*	**Reading recipes** **P. of Study** Design and technology Year 2 Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. *Also developed in: Planning a school meal; Designing a bag tag; Investigating Beach Huts* **P. of Study** Design and technology Year 2 Design purposeful, functional, appealing products for themselves and other users based on design criteria. *Also developed in: Planning a school meal; Designing a bag tag; Investigating Beach Huts* **Knowledge** Year 2 Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology. *Also developed in: Planning a school meal; Designing a bag tag; Investigating Beach Huts* **Skill** Year 2 Generate and communicate their ideas through a range of different methods *Also developed in: Planning a school meal; Designing a bag tag; Investigating Beach Huts*	**Planning a taco filling** **P. of Study** Design and technology Year 3 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. *Also developed in: Designing an automaton toy; Planning a mini green house* **P. of Study** Design and technology Year 3 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. *Also developed in: Designing an automaton toy; Planning a mini green house* **Knowledge** Year 3 Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. *Also developed in: Designing an automaton toy; Planning a mini green house* **Skill** Year 3 Develop design criteria to inform a design. *Also developed in: Designing an automaton toy; Planning a mini green house*	**Diagrams and protypes** **P. of Study** Design and technology Year 4 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. *Also developed in: Design a William Morris inspired fabric* **P. of Study** Design and technology Year 4 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. *Also developed in: Design a William Morris inspired fabric* **Knowledge** Year 4 Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. *Also developed in: Design a William Morris inspired fabric* **Knowledge** Year 4 A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials.	**Computer aided design (NOTE: Install CAD software)** **P. of Study** Design and technology Year 5 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. **P. of Study** Design and technology Year 5 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Knowledge** Year 5 A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products. **Knowledge** Year 5 Computer-aided design (CAD) is the use of specialised computer software to design objects. CAD can help designers to create better quality, clearer designs and make changes easily. CAD designs can also be made into objects using 3-D printers. **Skill** Year 5 Use pattern pieces and computer-aided design packages to design a product.	**Designing a bridge protype** **P. of Study** Design and technology Year 6 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. **P. of Study** Design and technology Year 6 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Knowledge** Year 6 Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Skill** Year 6 Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.

Design	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	**Designing shelters (continued)** **Skill** Year 1 Create a design to meet simple design criteria. *Also developed in: Designing a play den; Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make); Design a sandwich* **Design a sandwich** **Knowledge** Year 1 The importance of a product may be that it fulfils its goals and performs a useful purpose. **Skill** Year 1 Describe why a product is important.		**Designing an automaton toy** **Knowledge** Year 3 Automation toys are machines that seem to move on their own and are intended to intrigue and delight an audience.	**Fresh, healthy snacks** **Skill** Year 4 Design a healthy snack or packed lunch and explain why it is healthy. *Also developed in: Designing a healthy packaged snack; Making a healthy, packaged snack* **Design a William Morris inspired fabric** **Skill** Year 4 Use annotated sketches and exploded diagrams to test and communicate their ideas.		

Make	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make	**Building prototype shelters** **P. of Study** Design and technology Year 1 Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. *Also developed in: Designing a play den* **Knowledge** Year 1 Different materials are suitable for different purposes, depending on their specific properties. For example, glass is transparent, so it is suitable to be used for windows. *Also developed in: Designing a play den* **Knowledge** Year 1 Different materials can be used for different purposes, depending on their properties. For example, cardboard is a stronger building material than paper. Plastic is light and can float. Clay is heavy and will sink. *Also developed in: Building a play den* **Skill** Year 1 Select and use a range of materials, beginning to explain their choices. *Also developed in: Designing a play den*	**Tools** **P. of Study** Design and technology Year 2 Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). *Also developed in: Sewing patterns; Stitching; Innovate: Lesson 2 – Make our huts and Evaluate* **Knowledge** Year 2 Different tools have characteristics that make them suitable for specific purposes. For example, scissors are used for cutting paper because they have sharp, metal blades that can cut through thin materials. *Also developed in: Sewing patterns; Innovate: Lesson 2 – Make our huts and Evaluate* **Skill** Year 2 Select the appropriate tool for a task and explain their choice. *Also developed in: Sewing patterns; Innovate: Lesson 2 – Make our huts and Evaluate* **Sewing patterns** **Specific knowledge** Year 2 A sewing pattern is a template of the parts needed to make a garment or product. Pattern pieces are usually made from paper.	**How cams work** **P. of Study** Design and technology Year 3 Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. *Also developed in: Making an automaton toy; Using a hot glue gun; Making a mini-green house* **Knowledge** Year 3 Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision. *Also developed in: Making an automaton toy; Using a hot glue gun; Making a mini-green house* **Skill** Year 3 Use tools safely for cutting and joining materials and components. *Also developed in: Making an automaton toy; Using a hot glue gun; Making a mini-green house*	**Designing a healthy packaged snack** **P. of Study** Design and technology Year 4 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. *Also developed in: Exploring fabrics; Block printing* **Knowledge** Year 4 Different materials and components have a range of properties, making them suitable for different tasks. It is important to select the correct material or component for the specific purpose, depending on the design criteria. *Also developed in: Exploring fabrics* **Skill** Year 4 Choose from a range of materials, showing an understanding of their different characteristics. *Also developed in: Exploring fabrics*	**Making a pneumatic machine** **P. of Study** Design and technology Year 5 Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. **Knowledge** Year 5 There are many rules for using tools safely and these may vary depending on the tools being used. For example, someone using a chisel should chip or cut with the cutting edge pointing away from their body. All tools should be cleaned and put away after use, and should not be used if they are loose or cracked. **Skill** Year 5 Name and select increasingly appropriate tools for a task and use them safely.	**Strengthening paper bridges (30 minutes)** **P. of Study** Design and technology Year 6 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. *Also developed in: Triangles for strength (30 minutes); Making a bridge prototype; Repair (2 hours); Sewing challenge (3 hours)* **Knowledge** Year 6 It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability. *Also developed in: Triangles for strength (30 minutes); Making a bridge prtootype; Repair (2 hours)* **Skill** Year 6 Choose the best materials for a task, showing an understanding of their working characteristics. *Also developed in: Triangles for strength (30 minutes); Making a bridge prototype; Repair (2 hours)*

Make	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make	**Building a play den** **P. of Study** Design and technology Year 1 Aims Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. *Also developed in: Making a supermarket sandwich* **Knowledge** Year 1 Rules are made to keep people safe from danger. Safety rules include always listening carefully and following instructions, using equipment only as and when directed, wearing protective clothing if appropriate and washing hands before touching food. *Also developed in: Making a supermarket sandwich* **Skill** Year 1 Follow the rules to keep safe during a practical task. *Also developed in: Making a supermarket sandwich*	**Stitching** **Knowledge** Year 2 A running stitch is a basic stitch that is used to join fabric. It is made by passing a needle in and out of fabric at an even distance. **Skill** Year 2 Use different methods of joining fabrics, including glue and running stitch. **Embellishment** **P. of Study** Design and technology Year 2 Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. *Also developed in: Making a bag tag; Innovate :Lesson 1Designing our huts* **Knowledge** Year 2 Embellishment is a decorative detail or feature added to something to make it more attractive. **Skill** Year 2 Add simple decorative embellishments, such as buttons, prints, sequins and appliqué.	**Designing an automaton toy** **P. of Study** Design and technology Year 3 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. *Also developed in: Investigating sheet materials* **Knowledge** Year 3 Materials for a specific task must be selected on the basis of their properties. These include physical properties as well as availability and cost. *Also developed in: Investigating sheet materials* **Skill** Year 3 Plan which materials will be needed for a task and explain why. *Also developed in: Investigating sheet materials* **Using a hot glue gun** **Specific knowledge** Year 3 A hot glue gun can join materials, including wood, some plastics, metal, fabric and paper. The advantages of a hot glue gun are that it allows glue to go onto a surface smoothly, the user can direct the glue to exactly where it is needed, and the glue hardens quickly. Safety rules must be followed to prevent burns.	**Making a healthy, packaged snack** **P. of Study** Design and technology Year 4 Aims Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. **Knowledge** Year 4 Chemicals are used in the home every day. They include cleaning products, such as bleach and disinfectant, but also paints, glues, oils, pesticides and medicines. Most chemical products carry a hazard symbol showing in what way the chemical could be harmful. Chemicals should only be used under adult supervision. Appropriate safety precautions, such as wearing goggles and gloves, working in a well-ventilated room, wiping up spills and tying back long hair, should be taken. **Skill** Year 4 Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray. **Exploring fabrics** **Knowledge** Year 4 Fabrics can be natural or synthetic. Natural fabrics include cotton, silk and wool. Synthetic fabrics include Lycra, polyester and nylon.	**Making a pneumatic protype** **P. of Study** Design and technology Year 5 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. *Also developed in: Building design* **Knowledge** Year 5 Materials should be cut and combined with precision. For example, pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques. *Also developed in: Building design* **Skill** Year 5 Select and combine materials with precision. *Also developed in: Building design*	**Deconstruct** **P. of Study** Design and technology Year 6 Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. *Also developed in: Stitch; Repair (2 hours); Sewing challenge (3 hours)* **Knowledge** Year 6 Precision is important in producing a polished, finished product. Correct selection of tools and careful measurement can ensure the parts fit together correctly. *Also developed in: Stitch* **Specific knowledge** Year 6 Deconstructing garments identifies how they were made, the materials used and their properties. **Skill** Year 6 Select appropriate tools for a task and use them safely and precisely. *Also developed in: Stitch* **Stitch** **Specific knowledge** Year 6 Hand stitches include running stitch, blanket stitch and whip stitch.

Make	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make	**Week 2** **P. of Study** Design and technology Year 1 Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). **Knowledge** Year 1 specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking. **Knowledge** Year 1 Knives are used for slicing and chopping, a grater is used for grating, a vegetable peeler is used for peeling and a masher is used for crushing. **Skill** Year 1 Select the appropriate tool for a simple practical task.	**Making a bag tag** **Knowledge** Year 2 Properties of components and materials determine how they can and cannot be used. For example, plastic is shiny and strong but it can be difficult to paint. *Also developed in: Innovate :Lesson 1Designing our huts* **Skill** Year 2 Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. *Also developed in: Innovate :Lesson 1Designing our huts* **Innovate: Lesson 2 – Make our huts and Evaluate** **Specific knowledge** Year 2 Tools for working with wood include a junior hacksaw, for cutting; a bench hook, for supporting the wood and as a guide to cut; and a G clamp, for holding the bench hook and wood securely.	**Investigating sheet materials** **Specific knowledge** Year 3 Materials, such as glass and plastic are suitable for making greenhouse roofs and walls because they are transparent, waterproof and hardwearing.	**Sewing a hem** **P. of Study** Design and technology Year 4 Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. *Also developed in: Making a William Morris inspired fabric* **Knowledge** Year 4 A hem runs along the edge of a piece of cloth or clothing. It is made by turning under a raw edge and sewing to give a neat and quality finish. **Skill** Year 4 Hand sew a hem or seam using a running stitch **Making a William Morris inspired fabric** **Knowledge** Year 4 Useful tools for cutting include scissors, craft knives, junior hacksaws with pistol grip and bench hooks. Useful tools for joining include glue guns. Tools should only be used with adult supervision and safety rules must be followed. **Specific knowledge** Year 4 Joining tools to use with fabric include needles, pins and clips, cutting tools include a variety of scissors such as pinking shears, finishing tools include an iron and ironing board. **Skill** Year 4 Select, name and use tools with adult supervision.		**Repair (2 hours)** **Knowledge** Year 6 Pinning with dressmaker pins and tacking with quick, temporary stitches holds fabric together in preparation for and during sewing. *Also developed in: Sewing challenge (3 hours)* **Skill** Year 6 Pin and tack fabrics in preparation for sewing and more complex pattern work. *Also developed in: Sewing challenge (3 hours)* **Sewing challenge (3 hours)** **Skill** Year 6 Use different methods of fastening for function and decoration, including press studs, Velcro and buttons.

Evaluate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate	**Investigating shelters** **P. of Study** Design and technology Year 1 Explore and evaluate a range of existing products. *Also developed in: Lesson 1 & Lesson 2 to be carried out over a whole afternoon (Experimenting / exploring axels); Design a sandwich* **Knowledge** Year 1 Everyday products are objects that are used routinely at home and school, such as a toothbrush, cup or pencil. All products are designed for a specific purpose. **Knowledge** Year 1 Two products can be compared by looking at a set of criteria and scoring both products against each one. *Also developed in: Lesson 1 & Lesson 2 to be carried out over a whole afternoon (Experimenting / exploring axels)* **Skill** Year 1 Name and explore a range of everyday products and describe how they are used. **Skill** Year 1 Describe the similarities and differences between two products *Also developed in: Lesson 1 & Lesson 2 to be carried out over a whole afternoon (Experimenting / exploring axels)*	**Planning a school meal** **P. of Study** Design and technology Year 2 Explore and evaluate a range of existing products. *Also developed in: Everyday fabric projects; Significant designer – Cath Kitson* **Knowledge** Year 2 Many key individuals have helped to shape the world. These include engineers, scientists, designers, inventors and many other people in important roles. *Also developed in: Significant designer – Cath Kitson* **Skill** Year 2 Explain why a designer or inventor is important. *Also developed in: Significant designer – Cath Kitson* **Everyday fabric projects** **Knowledge** Year 2 Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive. **Specific knowledge** Year 2 There are many fabric home products. These include bedding, tea towels, cushions, tea cosies, toiletry bags and other containers. **Skill** Year 2 Explain how an everyday product could be improved.	**Healthy balanced diets** **P. of Study** Design and technology Year 3 Understand how key events and individuals in design and technology have helped shape the world. *Also developed in: Significant designer* **Knowledge** Year 3 Key inventions in design and technology have changed the way people live. **Skill** Year 3 Describe how key events in design and technology have shaped the world.	**Keeping food fresh** **P. of Study** Design and technology Year 4 Understand how key events and individuals in design and technology have helped shape the world. *Also developed in: Food packaging; Significant designer – William Morris & Motifs (cover as one lesson)* **Knowledge** Year 4 Significant designers and inventors can shape the world. *Also developed in: Food packaging; Significant designer – William Morris & Motifs (cover as one lesson)* **Skill** Year 4 Explain how and why a significant designer or inventor shaped the world. *Also developed in: Food packaging; Significant designer – William Morris & Motifs (cover as one lesson)*	**Exploring pneumatics** **P. of Study** Design and technology Year 5 Investigate and analyse a range of existing products. *Also developed in: Architecture over time; Greek architecture (2023 Tudors)* **Knowledge** Year 5 Culture is the language, inventions, ideas and art of a group of people. A society is all the people in a community or group. Culture affects the design of some products. For example, knives and forks are used in the western world, whereas chopsticks are used mainly in China and Japan. The design of products needs to take into account the culture of the target audience. For example, colours might mean very different things in different cultures. *Also developed in: Architecture over time; Greek architecture (2023 Tudors)* **Skill** Year 5 Explain how the design of a product has been influenced by the culture or society in which it was designed or made *Also developed in: Architecture over time; Greek architecture (2023 Tudors)*	**Exploring processed foods** **P. of Study** Design and technology Year 6 Investigate and analyse a range of existing products. *Also developed in: Comparing processed and homemade bread (2 hours); Bridges and engineers (30 mins); Features of Bridges (45 minutes); Make do and mend campaign (2hours); Evaluate (30 mins)* **Knowledge** Year 6 People's lives have been improved in countless ways due to new inventions and designs. For example, the Morrison shelter, designed by John Baker in 1941, was an indoor air-raid shelter used in over half a million homes during the Second World War. It saved the lives of many people caught in bombing raids. *Also developed in: Bridges and engineers (30 mins); Make do and mend campaign (2hours)* **Knowledge** Year 6 Products and inventions can be compared using a range of criteria, such as the impact on society, ease of use, appearance and value for money. *Also developed in: Comparing processed and homemade bread (2 hours); Features of Bridges (45 minutes); Evaluate (30 mins)*

Evaluate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate	**Design a sandwich** **Knowledge** Year 1 The importance of a product may be that it fulfils its goals and performs a useful purpose. **Skill** Year 1 Describe why a product is important. **Making a supermarket sandwich** **P. of Study** Design and technology Year 1 Evaluate their ideas and products against design criteria. **Knowledge** Year 1 A strength is a good quality of a piece of work. A weakness is an area that could be improved. **Skill** Year 1 Talk about their own and each other's work, identifying strengths or weaknesses and offering support.	**Significant designer – Cath Kitson** **Knowledge** Year 2 Products can be compared by looking at particular characteristics of each and deciding which is better suited to the purpose. **Specific knowledge** Year 2 A brand is a name, term, design, or symbol identifying a seller's products or services. Famous brands include Coca Cola, Kellogg's and Apple. **Specific knowledge** Year 2 Cath Kidston is an influential British home products brand famous for making textiles, clothing, and furnishings. The Cath Kidston brand is significant as her products are popular worldwide, inspiring modern craftspeople and designers. **Skill** Year 2 Compare different or the same products from the same or different brands.	**Evaluation** **P. of Study** Design and technology Year 3 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. *Also developed in: Making an automaton toy; Evaluation* **Knowledge** Year 3 Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model. *Also developed in: Making an automaton toy; Evaluation* **Skill** Year 3 Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. *Also developed in: Making an automaton toy; Evaluation*	**Food packaging** **P. of Study** Design and technology Year 4 Investigate and analyse a range of existing products. *Also developed in: Exploring fabrics; Design features of familiar projects* **Knowledge** Year 4 Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable. *Also developed in: Design features of familiar projects* **Skill** Year 4 Investigate and identify the design features of a familiar product. *Also developed in: Design features of familiar projects*	**Investigating pneumatics** **P. of Study** Design and technology Year 5 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. *Also developed in: Making a pneumatic protype; Evaluation; Evaluation* **Knowledge** Year 5 Testing a product against the design criteria will highlight anything that needs improvement or redesign. Changes are often made to a design during manufacture. *Also developed in: Making a pneumatic protype; Evaluation* **Skill** Year 5 Test and evaluate products against a detailed design specification and make adaptations as they develop the product. *Also developed in: Making a pneumatic protype; Evaluation* **Designing a pneumatic protype** **P. of Study** Design and technology Year 5 Aims Critique, evaluate and test their ideas and products and the work of others.	**Exploring processed foods (continued)** **Skill** Year 6 Analyse how an invention or product has significantly changed or improved people's lives. *Also developed in: Bridges and engineers (30 mins); Make do and mend campaign (2hours)* **Skill** Year 6 Create a detailed comparative report about two or more products or inventions. *Also developed in: Comparing processed and homemade bread (2 hours); Features of Bridges (45 minutes); Evaluate (30 mins)*

Evaluate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate			**Machines and Mechanisms** **P. of Study** Design and technology Year 3 Investigate and analyse a range of existing products. *Also developed in: Greenhouse design* **Knowledge** Year 3 Particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box. *Also developed in: Greenhouse design* **Skill** Year 3 Explain how an existing product benefits the user. *Also developed in: Greenhouse design*	**Evaluation** **P. of Study** Design and technology Year 4 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. *Also developed in: Evaluation* **Knowledge** Year 4 Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made. Evaluation also includes suggesting improvements and explaining why they should be made. *Also developed in: Evaluation* **Skill** Year 4 Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements. *Also developed in: Evaluation*	**Making a pneumatic protype** **Knowledge** Year 5 Design is an iterative process, meaning that once an initial prototype has been designed it is continually tested and improved until the final product is deployed. **Evaluation** **Knowledge** Year 5 A focus group is a small group of people whose reactions and opinions about a product are taken and studied. Evaluations can be made by asking product users a selection of questions to obtain data on how the product has met its design criteria. **Skill** Year 5 Survey users in a range of focus groups and compare results. **Benefits of seasonal eating** **Skill** Year 5 Evaluate meals and consider if they contribute towards a balanced diet. *Also developed in: Designing; Taste test*	**Evaluation** **P. of Study** Design and technology Year 6 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. *Also developed in: Evaluation* **Knowledge** Year 6 Design is an iterative process, meaning alterations and improvements are made continually throughout the manufacturing process. Evaluating a product while it's being manufactured, and explaining these evaluations to others, can help to refine it. *Also developed in: Evaluation* **Skill** Year 6 Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others. *Also developed in: Evaluation*

Evaluate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluate			**Significant designer** **P. of Study** Art and design Year 3 Learn about great artists, architects and designers in history. **Knowledge** Year 3 Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market. **Knowledge** Year 3 Explorations of the similarities and differences between pieces of art, structures and products from the same genre could focus on the subject matter, the techniques and materials used or the ideas and concepts that have been explored or developed. **Specific knowledge** Year 3 There are similarities and differences between the Great Conservatory of Chatsworth House and the Eden Project biomes. Both greenhouses were built to house tropical plants and have a frame structure. However, the frameworks are made of different materials and the greenhouses are heated in different ways. **Skill** Year 3 Explain the similarities and difference between the work of two designers. **Skill** Year 3 Compare artists, architects and designers and identify significant characteristics of the same style of artwork, structures and products through time.	**Exploring fabrics** **Knowledge** Year 4 A comparison table can be used to compare products by listing specific criteria on which each product can be judged or scored. *Also developed in: Design features of familiar projects* **Skill** Year 4 Create and complete a comparison table to compare two or more products *Also developed in: Design features of familiar projects* **Design features of familiar projects** **Specific knowledge** Year 4 Design features include purpose and function, appearance, quality, material, size, colour, pattern, embellishment, durability and usability. **Significant designer – William Morris & Motifs (cover as one lesson)** **Specific knowledge** Year 4 William Morris was a British textile designer, artist and socialist activist associated with the British Arts and Crafts Movement. He was a significant contributor to the revival of traditional British textile arts and methods of production.	**Architecture over time** **P. of Study** Design and technology Year 5 Understand how key events and individuals in design and technology have helped shape the world. **Knowledge** Year 5 Many new designs and inventions influenced society. For example, labour-saving devices in the home reduced the amount of housework, which was traditionally done by women. This enabled them to have jobs. **Skill** Year 5 Describe the social influence of a significant designer or inventor. **Greek architecture (2023 Tudors)** **Specific knowledge** Year 5 The ancient Greeks developed the Classical form of architecture. They used columns to support roofs, which had three main orders; Doric, Ionic and Corinthian. Ancient Greek buildings were symmetrical and beautiful. Roofs had a triangular shaped part, called the pediment, and a wide horizontal part, usually decorated with a frieze, called the entablature. Greek buildings were usually made from limestone or marble.	**Bridges and engineers (30 mins)** **P. of Study** Design and technology Year 6 Understand how key events and individuals in design and technology have helped shape the world. **Knowledge** Year 6 The significance of a designer or inventor can be measured in various ways. Their work may benefit society in health, transport, communication, education, the built environment or technology. It may enhance culture in different areas, such as fashion, ceramics or computer games. **Knowledge** Year 6 Bridge structures have changed over time with innovations in design and materials. Significant bridges include the Menai Bridge, Clifton Suspension Bridge and Forth Bridge. **Skill** Year 6 Present a detailed account of the significance of a favourite designer or inventor. **Make do and mend campaign (2hours)** **Specific knowledge** Year 6 In 1941, the British government introduced clothes rationing. This was to limit the amount of labour and materials used in clothes production, so that it could be used to support the greater war effort. **Specific knowledge** Year 6 Make Do and Mend was a campaign run by the Ministry of Information to encourage people to recycle and repurpose their old clothes rather than buy new.

Technical	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technical	**Investigating shelters** **Specific knowledge** Year 1 A shelter is a structure designed to give protection from weather or danger. A bus shelter, office block, garage, carport, tent, bird table, shed, conservatory, house, kennel and caravan are all examples of shelters. A shelter can be permanent, like a house or garage, or temporary, like a tent or gazebo. **Properties of material** **P. of Study** Science Year 1 Materials Distinguish between an object and the material from which it is made. **P. of Study** Science Year 1 Materials Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. **Knowledge** Year 1 A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric. **Skill** Year 1 Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.	**Lesson 1: Experimenting** **P. of Study** Design and technology Year 2 Build structures, exploring how they can be made stronger, stiffer and more stable. *Also developed in: Lesson 2: Working with wood* **Knowledge** Year 2 Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stabl **Skill** Year 2 Explore how a structure can be made stronger, stiffer and more stable *Also developed in: Lesson 2: Working with wood* **Lesson 2: Working with wood** **Knowledge** Year 2 Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable.	**Machines and Mechanisms** **P. of Study** Design and technology Year 3 Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). *Also developed in: How cams work; Using different shaped cams* **Knowledge** Year 3 Levers consist of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down, and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and- down motion. *Also developed in: How cams work; Using different shaped cams* **Skill** Year 3 Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products *Also developed in: How cams work; Using different shaped cams*	**Diagrams and prototypes** **P. of Study** Design and technology Year 4 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **Knowledge** Year 4 Shell and frame structures can be strengthened by gluing several layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them). **Knowledge** Year 4 Most cardboard packaging is produced from a net. Packages can be strengthened by using thicker cardboard or multiple layers.	**Exploring pneumatics** **P. of Study** Design and technology Year 5 Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). *Also developed in: Investigating pneumatics; Designing a pneumatic protype* **Knowledge** Year 5 Pneumatic systems use energy that is stored in compressed air to do work, such as inflating a balloon to open a model monster's mouth. These effects can be achieved using syringes and plastic tubing. *Also developed in: Investigating pneumatics; Designing a pneumatic protype* **Knowledge** Year 5 A pneumatic system uses air to exert a force. This force is used in pneumatic jacks to lift vehicles, in paint sprayers to force paint out at high speed, in jackhammers to break up pavements and in train and bus brakes. **Knowledge** Year 5 Pneumatic systems are low maintenance, compact and safe as only air can leak from the system. **Skill** Year 5 Use mechanical systems in their products, such as pneumatics. *Also developed in: Investigating pneumatics; Designing a pneumatic protype*	**Bridges and engineers (30 mins)** **Knowledge** Year 6 Bridges provide a safe route over obstacles, including roads and rivers. They are used by pedestrians, cars, trains and pipelines. **Features of Bridges (45 minutes)** **Specific knowledge** Year 6 The four main bridge types are the beam bridge, arch bridge, truss bridge and suspension bridge. They each spread forces in different ways to remain strong and stable.

Technical	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technical	**Building prototype shelters** **P. of Study** Design and technology Year 1 Build structures, exploring how they can be made stronger, stiffer and more stable. *Also developed in: Building a play den* **Knowledge** Year 1 A structure should have strong, sturdy supports that are joined so that they do not move. The roof and walls should have a covering for protection against the weather, and there should be an entry point. **Skill** Year 1 Construct simple structures, models or other products using a range of materials. *Also developed in: Building a play den* **Designing a play den** **Knowledge** Year 1 A play den is a shelter, usually built outside. It is a temporary structure made from found or readily available materials. It can be used for imaginative play or to provide protection from the weather.		**How cams work** **Knowledge** Year 3 Cam mechanisms consist of an axle, a cam and a follower. The cam is fixed to the axle and the follower sits on the cam. When the axle is rotated, the follower moves up and down, following the shape of the cam. Cams are used in many machines. In engines, cams open and close valves. They can also be used to make carousel horses move up and down. **Using different shaped cams** **Specific knowledge** Year 3 Different shaped cams produce different patterns of movement in the follower. A pear cam makes the follower stationary for half a turn, then it gently rises and falls. It is used for carousel horses. An off-centre circular cam produces a smooth, continuous up and down movement. It is used for steam engine pistons. A heart cam makes a jerky, irregular up and down movement. A snail cam makes the follower stationary for half a turn, then gently rise and quickly fall.	**Identifying simple machines** **P. of Study** Design and technology Year 4 Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). *Also developed in: Using simple machines; Designing machine prototypes* **Knowledge** Year 4 Mechanisms can be used to add functionality to a model. For example, sliders or levers can be used in moving pictures, storybooks or simple puppets; linkages in moving vehicles or puppets; gears in motorised vehicles or spinning toys; pulleys in cable cars or transport systems and cams in 3-D moving toys or pictures. *Also developed in: Using simple machines; Designing machine prototypes* **Specific knowledge** Year 4 Simple machines make physical jobs easier by changing the strength or direction of a force. There are six simple machines: pulley; lever; wheel and axle; wedge; inclined plane; and screw. Simple machines can be combined to make complex, compound machines. **Skill** Year 4 Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products. *Also developed in: Designing machine prototypes*	**Making a pneumatic machine** **P. of Study** Design and technology Year 5 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. *Also developed in: Support, stiffness and stability; Building design* **Knowledge** Year 5 Various methods can be used to support a framework. These include cross braces, guy ropes and diagonal struts. Frameworks can be built using lolly sticks, skewers and bamboo canes. *Also developed in: Support, stiffness and stability; Building design* **Knowledge** Year 5 Different mechanisms and systems can work together to perform a function. A strong and stable structure is necessary to support different mechanisms in a machine. **Skill** Year 5 Build a framework using a range of materials to support mechanisms. *Also developed in: Support, stiffness and stability; Building design*	**Strengthening paper bridges (30 minutes)** **P. of Study** Design and technology Year 6 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. *Also developed in: Triangles for strength (30 minutes)* **Knowledge** Year 6 Strength can be added to a framework by using multiple layers. For example, corrugated cardboard can be placed with corrugations running alternately vertically and horizontally. Triangular shapes can be used instead of square shapes because they are more rigid. Frameworks can be further strengthened by adding an outer cover. *Also developed in: Triangles for strength (30 minutes)* **Skill** Year 6 Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. *Also developed in: Triangles for strength (30 minutes)* **Triangles for strength (30 minutes)** **Knowledge** Year 6 Triangles are a strong shape used by engineers to add strength to a structure. When a force is applied to a triangle, it is distributed down each side, making triangles difficult to distort or collapse.

Technical	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technical	**Lesson 1 & Lesson 2 to be carried out over a whole afternoon (Experimenting / exploring axels)** **P. of Study** Design and technology Year 1 Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products. *Also developed in: Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make)* **Knowledge** Year 1 An axle is a rod or spindle that passes through the centre of a wheel to connect two wheels. *Also developed in: Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make)* **Specific knowledge** Year 1 Most vehicles that move on land have axles and wheels that are fixed to a chassis. **Skill** Year 1 Use wheels and axles to make a simple moving model *Also developed in: Lesson 3 & Lesson 4 to be carried out over a whole afternoon (design & make)* **Specific knowledge** Year 1 Axles and wheels can be attached to chassis in different ways: an axle fixed to a chassis has freely moving wheels, whereas a freely moving axle has fixed wheels.		**Making an automaton toy** **P. of Study** Science Year 3 Aims Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. **Skill** Year 3 Make working models with simple mechanisms or electrical circuits. **Greenhouse design** **Specific knowledge** Year 3 A greenhouse is a building where plants can grow in a warm and protected environment. Greenhouses let light in through transparent or translucent walls and roofs. Windows, vents or fans provide ventilation.	**Using simple machines** **Specific knowledge** Year 4 Simple machines make physical jobs easier by changing the strength or direction of a force. **Designing machine prototypes** **Specific knowledge** Year 4 Simple machines including pulleys, levers, wheels and axles and inclined planes can be combined to make a machine that can move heavy objects.	**Designing a pneumatic protype** **Knowledge** Year 5 Safety features are often incorporated into products that might cause harm. Some examples include the child-safety caps on medicine bottles, seatbelts in cars, covers for electrical sockets and finger guards on doors. **Knowledge** Year 5 Pneumatic systems can be used to lift heavy loads, raise and lower platforms or soften a force by acting as a shock absorber. **Skill** Year 5 Explain the functionality and purpose of safety features on a range of products. **Support, stiffness and stability** **Specific knowledge** Year 5 Support, stiffness and stability can be created by using triangular shapes to create strong frameworks, columns to support roofs and overlapping brickwork patterns.	**Sewing challenge (3 hours)** **Knowledge** Year 6 Fastenings hold a piece of clothing together. Types of fastenings include zips, press studs, Velcro and buttons.

Technical	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technical	**Week 2** **P. of Study** Science Year 1 Aims Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.		**Strengthening structures** **P. of Study** Design and technology Year 3 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **Knowledge** Year 3 Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure. **Specific knowledge** Year 3 Diagonal struts create triangular shapes within a frame structure. Adding diagonal struts adds strength and stability. **Skill** Year 3 Create shell or frame structures using diagonal struts to strengthen them.			

Food	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food	**Week 1** **P. of Study** Design and technology Year 1 Understand where food comes from. **Knowledge** Year 1 Some foods come from animals, such as meat, fish and dairy products. Other foods come from plants, such as fruit, vegetables, grains, beans and nuts. **Skill** Year 1 Sort foods into groups by whether they are from an animal or plant source. **Week 2** **P. of Study** RHE – Health education Year 1 Health Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing. **Knowledge** Year 1 Hand washing and good hygiene are important parts of a healthy lifestyle and prevent the spread of germs. **Skill** Year 1 Explain why hand washing and cleanliness are important	**Exploring where food comes from** **P. of Study** Design and technology Year 2 Understand where food comes from. **Knowledge** Year 2 Food comes from two main sources: animals and plants. Cows provide beef, sheep provide lamb and mutton and pigs provide pork, ham and bacon. Examples of poultry include chickens, geese and turkeys. Examples of fish include cod, salmon and shellfish. Milk comes mainly from cows but also from goats and sheep. Most eggs come from chickens. Honey is made by bees. Fruit and vegetables come from plants. Oils are made from parts of plants. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts. **Skill** Year 2 Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).	**Healthy balanced diets** **P. of Study** Design and technology Year 3 Understand and apply the principles of a healthy and varied diet. **P. of Study** RHE – Health education Year 3 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). **P. of Study** Science Year 3 Animals Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. **Knowledge** Year 3 There are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet. **Knowledge** Year 3 Humans have to get nutrition from what they eat. It is important to have a balanced diet made up of the main food groups, including proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads. Humans need to stay hydrated by drinking water. **Skill** Year 3 Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).	**Keeping food fresh** **Specific knowledge** Year 4 Food packaging plays an important role in keeping foods fresh. The 'use by' date shows when the food is no longer safe to eat. The 'best before' date shows the date after which the food will lose some flavour or texture. **Specific knowledge** Year 4 Food deteriorates due to the growth of microorganisms. Decay can be prevented or delayed by preservation methods, such as drying, salting, pickling, canning, pasteurising, refrigerating or freezing the food. **Food packaging** **P. of Study** Design and technology Year 4 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Knowledge** Year 4 Particular areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America. **Skill** Year 4 Identify and name foods that are produced in different places in the UK and beyond.	**Seasonality** **P. of Study** Design and technology Year 5 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Knowledge** Year 5 Seasonality is the time of year when the harvest or flavour of a type of food is at its best. Buying seasonal food is beneficial for many reasons: the food tastes better; it is fresher because it hasn't been transported thousands of miles; the nutritional value is higher; the carbon footprint is lower, due to reduced transport; it supports local growers and is usually cheaper. **Specific knowledge** Year 5 Food hygiene is important to prevent the spread of disease-causing microorganisms. *Also developed in: Dicing, peeling and grating* **Specific knowledge** Year 5 Foods can be prepared and cooked in different ways to achieve different results. *Also developed in: Dicing, peeling and grating* **Skill** Year 5 Describe what seasonality means and explain some of the reasons why it is beneficial.	**Exploring processed foods** **Specific knowledge** Year 6 There are different categories of processed foods. Ultra-processed foods have been through significant changes, have added ingredients and often a low nutritional value. **Specific knowledge** Year 6 A processed food is changed during preparation and includes processes, such as cooking, freezing, pasteurising, or the addition of ingredients. Pros of processed foods include convenience and availability. Cons include a lack of nutrients and unhealthy ingredients.

Food	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food	**Week 3** **P. of Study** Design and technology Year 1 Use the basic principles of a healthy and varied diet to prepare dishes. **P. of Study** RHE – Health education Year 1 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). **P. of Study** RHE – Health education Year 1 Healthy Know the principles of planning and preparing a range of healthy meals. **Knowledge** Year 1 Using non-standard measures is a way of measuring that does not involve reading scales. For example, weight may be measured using a balance scale and lumps of plasticine. Length may be measured in the number of handspans or pencils laid end to end. **Knowledge** Year 1 Fruit and vegetables are an important part of a healthy diet. It is recommended that people eat at least five portions of fruit and vegetables every day. **Knowledge** Year 1 Fruits and vegetables can be mixed to make a healthy salad. Salad dressings can improve the flavour of salads. **Skill** Year 1 Measure and weigh food items using non-standard measures, such as spoons and cups. **Skill** Year 1 Select healthy ingredients for a fruit or vegetable salad	**Tools** **P. of Study** Design and technology Year 2 Use the basic principles of a healthy and varied diet to prepare dishes. *Also developed in: Making a new school meal* **Knowledge** Year 2 Some ingredients need to be prepared before they can be cooked or eaten. There are many ways to prepare ingredients: peeling skins using a vegetable peeler, such as potato skins; grating hard ingredients, such as cheese or chocolate; chopping vegetables, such as onions and peppers and slicing foods, such as bread and apples. **Skill** Year 2 Prepare ingredients by peeling, grating, chopping and slicing. **Why do we cook our food?** **P. of Study** Science Year 2 Aims Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. **Knowledge** Year 2 Some foods, such as ice and chocolate, melt when heated, but then harden (solidify or freeze) when cooled. **Skill** Year 2 Observe what happens when a range of everyday materials, including foods, are heated and cooled, sorting and grouping them based on their observations.	**Healthy balanced diets (continued)** **Skill** Year 3 Explain the importance and characteristics of a healthy, balanced diet.	**Fresh, healthy snacks (continued)** **P. of Study** Design and technology Year 4 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **P. of Study** Design and technology Year 4 Understand and apply the principles of a healthy and varied diet. *Also developed in: Designing a healthy packaged snack; Making a healthy, packaged snack* **P. of Study** RHE – Health education Year 4 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). *Also developed in: Designing a healthy packaged snack; Making a healthy, packaged snack* **P. of Study** RHE – Health education Year 4 Healthy Know the principles of planning and preparing a range of healthy meals. *Also developed in: Designing a healthy packaged snack; Making a healthy, packaged snack* **Knowledge** Year 4 Cooking techniques include baking, boiling, frying, grilling and roasting.	**Benefits of seasonal eating** **P. of Study** Design and technology Year 5 Understand and apply the principles of a healthy and varied diet. *Also developed in: Designing; Taste test* **P. of Study** RHE – Health education Year 5 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). *Also developed in: Designing; Taste test* **Knowledge** Year 5 A balanced diet gives your body all the nutrients it needs to function correctly. This means eating a wide variety of foods in the correct proportions. *Also developed in: Designing; Taste test*	**Comparing processed and homemade bread (2 hours)** **P. of Study** Design and technology Year 6 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. *Also developed in: Whole foods; Making a healthy meal & Evaluation in one session* **Knowledge** Year 6 Ingredients can usually be bought at supermarkets, but specialist shops may stock different items. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses. *Also developed in: Whole foods; Making a healthy meal & Evaluation in one session* **Knowledge** Year 6 Sliced bread is processed. It can contain many more ingredients than homemade bread, including preservatives and artificial ingredients. **Knowledge** Year 6 Yeast is a leavening agent that makes bread rise. Kneading is a technique used to make bread dough. Proving means to leave bread dough, which contains yeast, to rise. **Skill** Year 6 Follow a recipe that requires a variety of techniques and source the necessary ingredients independently. *Also developed in: Whole foods; Making a healthy meal & Evaluation in one session*

Food	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food		**Reading recipes** **P. of Study** RHE – Health education Year 2 Health Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing. **P. of Study** Design and technology Year 2 Aims Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. **Knowledge** Year 2 Hygiene rules include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills. **Skill** Year 2 Work safely and hygienically in construction and cooking activities. **Planning a school meal** **Knowledge** Year 2 School kitchen staff are important people because they provide healthy, nutritious, appealing and balanced meals.	**Using cooking appliances** **P. of Study** Design and technology Year 3 Aims Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. **P. of Study** Design and technology Year 3 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. *Also developed in: Making a ratatouille; Making a taco filling* **Knowledge** Year 3 Electrical appliances must only be used under the supervision of an adult. Safety rules must also be followed when using electricity: fingers and other objects must not be put into electrical outlets, anything with a cord or plug should never be used around water and a plug should never be pulled out by its cord. **Knowledge** Year 3 Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning. *Also developed in: Making a ratatouille; Making a taco filling* **Skill** Year 3 Use appliances safely with adult supervision. **Skill** Year 3 Prepare and cook a simple savoury dish. *Also developed in: Making a ratatouille; Making a taco filling*	**Fresh, healthy snacks (continued)** **Knowledge** Year 4 Healthy snacks include fresh or dried fruit and vegetables, nuts and seeds, rice cakes with low-fat cream cheese, homemade popcorn or chopped vegetables with hummus. A healthy packed lunch might include a brown or wholemeal bread sandwich containing eggs, meat, fish or cheese, a piece of fresh fruit, a low-sugar yoghurt, rice cake or popcorn and a drink, such as water or semi-skimmed milk. *Also developed in: Designing a healthy packaged snack; Making a healthy, packaged snack* **Skill** Year 4 Identify and use a range of cooking techniques to prepare a simple meal or snack. **Designing a healthy packaged snack** **Knowledge** Year 4 Recipe ingredients have different tastes and appearances. They look and taste better and are cheaper when in season. *Also developed in: Exploring fabrics* **Knowledge** Year 4 Foods need packaging to keep them fresh, safe to eat and free from damage. Food packaging also provides nutritional information about the food inside, 'use by' and 'best before' dates, and the materials and recyclability of the packaging.	**Dicing, peeling and grating** **P. of Study** Design and technology Year 5 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. *Also developed in: Making* **Knowledge** Year 5 Sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one. *Also developed in: Making* **Skill** Year 5 Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. *Also developed in: Making*	**Whole foods** **P. of Study** Design and technology Year 6 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Knowledge** Year 6 Organic produce is food that has been grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives. Organic farmers use crop rotation, animal and plant manures, hand-weeding and biological pest control. **Knowledge** Year 6 A recipe provides information to prepare a dish, including ingredients, quantities and a method. They may also contain nutritional information. **Skill** Year 6 Explain how organic produce is grown.

Food	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food		**Making a new school meal** **P. of Study** RHE – Health education Year 2 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). **P. of Study** RHE – Health education Year 2 Healthy Know the principles of planning and preparing a range of healthy meals. **Knowledge** Year 2 A healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables. **Skill** Year 2 Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	**Making a ratatouille** **Specific knowledge** Year 3 Slow cookers cook food on a low heat over several hours. **Specific knowledge** Year 3 Ratatouille is a vegetarian dish made from onions, aubergines, courgettes, peppers and tomatoes. **Planning a taco filling** **P. of Study** Design and technology Year 3 Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Knowledge** Year 3 The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England. **Knowledge** Year 3 Tacos are a traditional Mexican street food made from wheat or corn tortillas, filled with a meat or vegetarian filling and topped with salsa, lettuce or cheese. **Skill** Year 3 Identify and name foods that are produced in different places.			**Designing a healthy meal** **P. of Study** Design and technology Year 6 Understand and apply the principles of a healthy and varied diet. **P. of Study** RHE – Health education Year 6 Healthy Know what constitutes a healthy diet (including understanding calories and other nutritional content). **P. of Study** RHE – Health education Year 6 Healthy Know the principles of planning and preparing a range of healthy meals. **Knowledge** Year 6 Eating a balanced diet is a positive lifestyle choice that should be sustained over time. Food that is high in fat, salt or sugar can still be eaten occasionally as part of a balanced diet. **Skill** Year 6 Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet **Making a healthy meal & Evaluation in one session** **Specific knowledge** Year 6 Techniques include preparation techniques, such as chopping, slicing, dicing, kneading and mashing, and cooking techniques, such as boiling, roasting, frying and baking.