

Progression of Knowledge and Skills for Design and Technology – KS1

Year Groups	Designing	Making	Evaluating	Technical Knowledge	Food Technology
	Design – purposeful, functional, appealing products for themselves and other users based on design criteria. Design – 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 (E.g. 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 tier ideas and products against design criteria.	Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (E.g. levers, sliders, wheels and axles) in their products`.	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.
Year 1	• Begin to use knowledge of existing products to design a product explaining what they are used for, who would use them, how they work, materials that could be used. • Begin to develop and explain ideas through creating a simple plan before making their product.	• Use own ideas to make a product. • Explore using tools (e.g. use scissors and a hole punch safely). • Assemble, join and combine materials together using a variety of temporary methods (e.g. glues or masking tape). • With help, measure, mark out, cut and shape a range of materials. • Plan by suggesting what to do next. • Follow procedures for health and safety. • Use finishing techniques including those from art and design.	• Evaluate their product by discussing how well it works in relation to the purpose. • Discuss what they like and dislike about existing products before they create their own. • Evaluate their products as they are developed, identifying strengths and possible changes they might make. • Explore what products are, what materials are used, how they work and are made and who or what they are made for.	• Make a product that moves. • Make their designs using appropriate techniques. • Build structures, exploring how they can be made stronger, stiffer and more stable. • Explore and use mechanisms in their products (e.g. levers, sliders, wheels and axles). • Begin to use the correct technical vocabulary for their project.	• Begin to understand where food comes from (e.g. animal or plant based). • Explore the understanding that food has to be farmed, grown or caught. • Know how to prepare simple dishes safely and hygienically. • Know how to use techniques such as cutting, peeling and grating.
Year 2	• Generate specific ideas by using their surroundings, their own other people's experiences explaining their design ideas through discussion, observation, modelling and drawing. • Explain the purpose for what they intend to design and make. • Develop and explain ideas through creating a plan before making their product using a range of equipment including IT programs. • Ensure planning suggests what to do next.	• Begin to select tools and materials; use correct vocabulary to name and describe them. • Explain why they have chosen specific tools and materials for their product. • With help, measure, cut and score with some accuracy and learn to use hand tools safely and appropriately. • Start to assemble, join and combine materials in order to make a product. • Demonstrate how to cut, shape and join fabric to make a simple product. • Use basic sewing techniques. • Follow procedures for health and safety. • Use finishing techniques including those from art and design.	• Evaluate their work against their design criteria. • Explain what they like and dislike about existing products and why before they create their own. • Evaluate their products, identifying strengths and possible changes they might make.	• Build structures, exploring how they can be made stronger, stiffer and more stable. • Use the appropriate mechanism in their product. • Use the correct technical vocabulary for their project.	• Understand where food comes from and how it came be farmed, grown or caught. • Know how to name and sort food into the five groups in 'The Eat Well Plate' and that everyone should try to eat at least five portions of fruit and vegetables every day. • Demonstrate how to prepare simple dishes safely and hygienically including cooking. • Demonstrate how to use techniques such as cutting, peeling and grating. • Describe ingredients when making a dish. • Follow a recipe, weighing ingredients.

Progression of Knowledge and Skills for Design and Technology – LKS2

Year Groups	Designing	Making	Evaluating	Technical Knowledge	Food Technology
	Design – purposeful, functional, appealing products for themselves and other users based on design criteria. Design – 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 (E.g. 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 tier ideas and products against design criteria.	Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (E.g. levers, sliders, wheels and axles) in their products`.	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.
Year 3	- With growing confidence generate ideas for a product, considering its purpose and the users and different contexts. - Begin to order the main stages of making a product, identifying its purpose and establish a set criteria for the finished product ensuring its appeal to intended users. - Understand how well products have been designed, made, what materials have been used and the construction technique explaining how it works. - Start to understand whether products can be recycled or reused. - When completing plans, indicate labels for key product design, choice of materials or components and how it will be made.	- Select a wider range of tools and techniques that are suitable for making their product (e.g. construction materials & kits, textiles, food ingredients, mechanical components). - Measure, mark out, cut, score and assemble components with more accuracy. - Start to work safely and accurately with a range of simple tools. - Follow procedures for safety and hygiene.	- Begin to disassemble and evaluate familiar products and consider the view of others to improve them. - Begin to evaluate the key designs of individuals in design and technology and how these products have helped shape the world. - Begin to refer to their design criteria as they make the product ensuring that products have been made well using the right materials and methods of construction.	- Ensure that their products have strong, stiff and reinforced workable structures. - Begin to understand that mechanical systems have an input, process and output. - Begin to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. - Using knowledge, begin to use finishing techniques to strengthen and improve the appearance of their product. - Use the correct technical vocab.	- Understand how to prepare and cook a variety of dishes safely and hygienically. - When using a recipe, weigh and describe how ingredients work together to create a dish. - Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Year 4	- Generate ideas in a range of ways considering the purpose for which they are designing – making links to other subject areas, intended users and different contexts, prototypes, annotated sketches & availability of resources. - Confidently design plans explaining labels for key product design, choice of materials or components and how it will be made as well as drawing it from different views to show specific features and how they work. - Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. - Develop a clear plan of what has to be completed focusing on how to use materials, equipment and processes, suggesting alternative methods of making if the first attempt fails. - When planning, identify ways to improve their product using feedforward.	- Select a wider range of tools and techniques that are suitable for making their product safely knowing which tool to use for a particular task - Know which material is likely to give the best outcome. - Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. - Start to join and combine materials and components accurately in temporary and permanent ways. - Sew using a range of different stitches, to weave and knit. - Order the main stages of making the product. - Follow procedures for safety and hygiene.	- Evaluate and suggest improvements for design both during and at the end of the project. - Evaluate their products carrying out appropriate tests. - Evaluate the key designs of individuals in design and technology and how these products have helped shape the world. - Present a product in an interesting way. - Refer to their design criteria as they make the product ensuring that products have been made well, using the right materials and methods of construction. - Explain how the product meets the needs and wants of the user.	- Use how science and maths can help designs and make products that work. - Understand how and why to reinforce and strengthen a 3D framework. - Use IT, where appropriate, to add to the quality of the product. - Use the correct technical vocab.	- Know how food is grown, reared and caught throughout the world and whether this is sustainable. - Confidently know how to prepare and cook a variety of dishes safely and hygienically. - Use the appropriate technique when preparing and cooking a variety of dishes. - When using a recipe, weigh ingredients accurately. - Understand that a healthy diet is made up from a variety of balance of different food and drink and why this is necessary. - Bring a creative element to the food product being designed.

Progression of Knowledge and Skills for Design and Technology – UKS2

Year Groups	Designing	Making	Evaluating	Technical Knowledge	Food Technology
	Design – purposeful, functional, appealing products for themselves and other users based on design criteria. Design – 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 (E.g. 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 tier ideas and products against design criteria.	Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (E.g. levers, sliders, wheels and axles) in their products`.	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.
Year 5	• Begin to generate, develop, model and communicate their ideas in detail, noting context, through discussions, step-by-step plans, annotated sketches, cross-sectional diagrams, prototypes and pattern pieces. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose explaining how a product will appeal to a specific audience. • Use results of investigations, information sources and research, including IT programs when developing design ideas. • Draw up a specification for their design.	• Plan the order of work, choosing appropriate materials, tools and techniques, refining ideas if necessary. • Select from and use a wider range of appropriate materials, components, tools, textiles, ingredients and techniques according to their functions. • Demonstrate how to use skills in using different tools and equipment safely and accurately with growing confidence. • With growing confidence, cut and join with accuracy to ensure a good quality finish to the product. • Follow procedures for safety and hygiene.	• Evaluate in depth a product against the original design specification and by carrying out tests (e.g. is the product functional?). • Evaluate their work throughout the project taking into account the views of others recording the feedforward advice. • Evaluate their ideas and products against their original design specifications.	• Continue to use knowledge to improve a product by strengthening, stiffening or reinforcing framework or structure. • Link scientific knowledge to design mechanical systems such as cams or pulleys or gears thus creating movement. • Use more complex finishing techniques to strengthen and improve the appearance and quality of their product using a range of equipment. • Use the correct technical vocab.	• Understand how food is processed into ingredients that can be eaten or used in cooking. • Understand how food is grown, reared and caught throughout the world and whether this is sustainable. • Confidently know how to prepare and cook a variety of dishes safely and hygienically, using the appropriate techniques and collecting and weighing the ingredients before beginning. • Begin to understand that different food and drink contain different substances to ensure a balanced diet – nutrients, water and fibre – that are needed for health.
Year 6	• Generate, develop, model and communicate their ideas in detail, noting context, through discussions, step-by-step plans, annotated sketches, cross-sectional diagrams, explaining how particular parts work. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose explaining how a product will appeal to a specific audience. • Understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.	• Plan the order of work, choosing appropriate materials, tools and techniques, refining ideas if necessary, identifying strengths and areas for development. • Know how to use any tool accurately and safely. • Aim to make and achieve a product of high quality demonstrating modifications as they create their product. • With confidence pin, sew, stitch material together to create a useable product. • Explain choice of materials and components according to functional properties and aesthetic qualities. • Follow procedures for safety and hygiene.	• Know how to test and evaluate designed products identifying strengths and areas for development against clear criteria. • Throughout the project, actively seek feedforward advice from others to improve design and product, recording the feedforward. • Explain how products should be stored and give reasons.	• Confidently use knowledge to improve a product by strengthening, stiffening or reinforcing framework or structure. • Use electrical systems accurately and correctly to enhance a given product ensuring it is functional. • Ensure complex finishing techniques to strengthen and improve the appearance and quality of their product using a range of equipment. • Use the correct technical vocab.	• Understand how food is grown, reared and caught throughout the world noting that it may seasonal and whether this is sustainable. • Understand how food is processed into ingredients that can be eaten or used in cooking. • Confidently prepare and cook a variety of dishes safely and hygienically using the appropriate techniques and collecting and weighing the ingredients before beginning. • Understand that different food and drink contain different substances to ensure a balanced diet – nutrients, water and fibre – that are needed for health. • Work with a budget to create a meal.