Key Stage One Key Knowledge and Skills Expectations for Design and Technology

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 taking, 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 (cutting, shaping, joining and finishing). ○ Select from and use a wider 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 own products against design criteria.	○ Build structures, exploring how they can be made stronger, stiffer, and more stable. ○ Explore and use mechanisms such as 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.
○ Use their own ideas to design something. ○ Describe how their own idea works. ○ Design a product that moves. ○ Explain to someone else how they want to make their product. ○ Create a simple plan before making.	○ Use their own ideas to make something. ○ Make a product that moves. ○ Choose appropriate resources and tools.	○ Describe how something works. ○ Explain what works well and not so well in the model they have made.	○ Make their own model stronger.	○ Cut food safely.

Year Three Key Knowledge and Skills Expectations for Design and Technology

Designing	Making	Evaluating	Technical Knowledge	Food Technology
○ 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 a group. ○ 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 (cutting, shaping, joining and finishing). ○ 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 shaped 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 involving switches, buzzers, bulbs, and motors\. ○ Apply their understanding of computing to control, programme and monitor their products.	○ Understand and apply the principles of a health 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.
○ Prove that a design meets set criteria. ○ Design a product and make sure it looks attractive. ○ Choose a material for both its suitability and its appearance.	○ Follow a step-by-step plan, choosing the right equipment and materials. ○ Select the most appropriate tools and techniques for a given task. ○ Make a product which uses both electrical and mechanical components. ○ Work accurately to measure, make cuts and make holes.	○ Explain how to improve a finished model. ○ Know why a model has, or has not been successful.	○ Know how to strengthen a product by stiffening a given part or reinforce a part of a structure. ○ Use a simple IT program within a design.	○ Describe how food ingredients come together. ○ Weigh out ingredients and follow a give recipe to make a dish. ○ Talk about which food is healthy and which is not. ○ Know when food is ready for harvesting.

Year Four Key Knowledge and Skills Expectations for Design and Technology

Designing	Making	Evaluating	Technical Knowledge	Food Technology
○ 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 a group. ○ 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 (cutting, shaping, joining and finishing). ○ 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 shaped 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 involving switches, buzzers, bulbs, and motors\. ○ Apply their understanding of computing to control, programme and monitor their products.	○ Understand and apply the principles of a health 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 ideas from other people when designing. ○ Produce a plan and explain it. ○ Persevere and adapt work when original ideas do not work. ○ Communicate ideas in a range of ways, including by sketching and drawings which are annotated.	○ Know which tools to use for a particular task and show knowledge of handling the tool. ○ Know which material is likely to give the best outcome. ○ Measure accurately.	○ Evaluate and suggest improvements for designs. ○ Evaluate products for both their purpose and appearance. ○ Explain how the original design has been improved. ○ Present a product in an interesting way.	○ Links scientific knowledge by using lights, switches, or buzzers. ○ Uses electrical systems to enhance the quality of the product. ○ Use IT where appropriate to add to the quality of the product.	○ Know how to be both hygienic and safe when preparing food. ○ Bring a creative element to the food product being designed.

Year Five Key Knowledge and Skills Expectations for Design and Technology

Designing	Making	Evaluating	Technical Knowledge	Food Technology
○ 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 a group. ○ 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 (cutting, shaping, joining and finishing). ○ 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 shaped 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 involving switches, buzzers, bulbs, and motors\. ○ Apply their understanding of computing to control, programme and monitor their products.	○ Understand and apply the principles of a health 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.
○ Come up with a range of ideas after collecting information from different sources. ○ Produce a detailed step by step plan. ○ Explain how a product will appeal to a specific audience. ○ Design a product that incorporates pulleys or gears.	○ Use a range of tools and equipment competently. ○ Make a prototype before making a final version. ○ Make a product that relies on pulleys or gears.	○ Suggest alternative plans, outlining the positive features and possible drawbacks. ○ Evaluate appearance and function against original criteria.	○ Link scientific knowledge to the design by using pulleys or gears. ○ Use more complex IT programs to enhance the quality of the product produced.	○ Know how to be both hygienic and safe when preparing food. ○ Know how to create a meal by collecting ingredients. ○ Know which seasons various foods are available for harvesting.

Year Six Key Knowledge and Skills Expectations for Design and Technology

Designing	Making	Evaluating	Technical Knowledge	Food Technology
○ 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 a group. ○ 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 (cutting, shaping, joining and finishing). ○ 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 shaped 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 involving switches, buzzers, bulbs, and motors\. ○ Apply their understanding of computing to control, programme and monitor their products.	○ Understand and apply the principles of a health 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 market research to inform plans and ideas. ○ Follow and refine original plans. ○ Justify planning in a convincing way. ○ Show that culture and society is considered in plans and design.	○ Know which tool to use for a specific practical task. ○ Know how to use tools correctly and safely. ○ Know what each tool is used for. ○ Explain why a specific tool is best for a specific action.	○ Know how to test and evaluate design products. ○ Explain how products should be stored and give reasons. ○ Evaluate product against clear criteria.	○ Use electrical systems correctly and accurately to enhance a product. ○ Know which IT program would enhance a product. ○ Use knowledge to improve a made product by strengthening, stiffening or reinforcing.	○ Explain how ingredients should be stored and give reasons. ○ Work within a budget to create a meal. ○ Understand the difference between a savoury and a sweet dish.