Progression of skills and knowledge in Design Technology

		Year 1 and 2	Year 3 and 4	Year 5 and 6
Knowledge	Food Technology	• Know how to prepare food safely and hygienically, without using a heat source.	• Know how to prepare and cook safely and hygienically, including use of a heat source.	• Know how to use a range of techniques such as peeling, slicing, grating, kneading and spreading.
	Users and Purposes	• Know why they need to make products suitable for intended end user and how this influences design.	• Understand the purpose of their product and know which design features will appeal to intended users.	• Know what impact products have beyond their intended purpose.
	Product Research	• Know the importance of research and using their findings in the design process.	• Understand the link between choice of materials, functionality and aesthetics.	• Know how to gather information about the needs and wants of groups and individuals.
	Design Technology Vocabulary	• Know the names and properties of materials commonly used in the manufacture of products.	• Know the names of a wide range of tools and techniques, including how to employ them.	• Know the correct technical vocabulary for the projects they are undertaking.
	Product Features	• Know the importance of including useful features within a product design	• Understand how important performance and appearance are in product design.	• Understand the relationship between a product's features and its functionality and usability.
	Invention and Development	• Know about significant inventors and developers and how they improved life for others	• Understand the role and importance of problem-solving within the invention process.	• Know and understand the importance of patent, copyright and trademark in the design process.
Skills	Investigation	• Explore the sensory qualities of materials. • Explore ways to construct models. • Explore a range of existing products. • Discover where foods come from in choosing, preparing and tasting different dishes.	• Use research to inform their design • Generate, develop and explain ideas for products to meet a range of needs. • Explore ways of meeting design challenges with a food focus using a range of cooking techniques. • Explore ways of meeting design challenges with a textile focus.	• Investigate ways of meeting design challenges with a construction focus. • Investigate how the work of individuals in design and technology has helped to shape the world. • Explore alternative ways of making their product, if first attempts fail
	Observation	• Identify a target group and purpose for what they intend to design and make. • Recognise how structures can be made stronger, stiffer and more stable.	• Identify a purpose and establish criteria for a successful product • Evaluate work, adapting and improving through the views of others to improve their work.	• Identify users' views and take these products into account. • Analyse a range of existing products. • Estimate and measure using appropriate instruments and units.

		• Identify simple design criteria then plan what to do next, using a variety of methods. • Observe and take account of properties of materials when deciding how to cut, shape, combine and join them. • Identify what they could have done differently or how they could improve their work in the future.		• Check work as it develops and modify if necessary. • Evaluate their products, identifying strengths and areas for development, and make appropriate changes.
	Application	• Generate and communicate their ideas using a variety of methods e.g drawing, making mock-ups, ICT. • Follow safe procedures • Take account of simple properties of materials when deciding how to cut, shape, combine and join them • Use tools and materials with help • Evaluate a range of existing products • Measure, mark, cut out and shape a range of materials. • Use mechanisms in their products e.g wheels, sliders • Use simple finishing techniques • Talk about their ideas, saying what they like and dislike, and evaluate against their design criteria.	• Communicate design ideas in different ways e.g discussion, annotated sketches, cross-sectional diagrams and prototypes. • Select appropriate tools and techniques, name and describe them. • Select from and use a range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. • Join and combine materials and components accurately in temporary and permanent ways. • Measure, mark, cut out and shape a range of materials and assemble, join and combine components and materials with increasing accuracy.	• Plan what they have to do, including how to use materials, equipment and processes. Suggest a sequence of actions and alternatives if needed. • Communicate design ideas in different ways e.g discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes pattern pieces and computer-aided design. • Choose how to communicate design ideas as they develop, considering use and purpose. • Apply knowledge of mechanical and electrical control when designing and making functional products. • Refine sequences of instructions to control events or make things happen. • Draw on and use various sources of information, including ICT sources. • Generate and clarify ideas for products, considering intended purpose. • Select from a wide range of tools and equipment to perform practical tasks accurately.