Year 5 Design Technology Progression of Knowledge & Skills

National Curriculum	Year 5 Progression of Knowledge and Skills
Developing planning and communicating ideas	• With growing confidence, I can apply a range of finishing techniques, including those from art and design • I can use results of **investigations, information sources**, including ICT when developing design ideas. • With growing confidence, I can select appropriate materials, tools and techniques. • I can start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose
Working with tools, equipment, materials and components to make quality products	• I can select appropriate materials, tools and techniques e.g. **cutting, shaping, joining and finishing, accurately.** • I can 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. • I understand how mechanical systems such as cams or **pulleys or gears** create movement- links to science • I can begin to measure and mark out accurately. • I understand that a model's shape and material changes its structural integrity and reliability • With growing confidence, I can cut and join with accuracy to ensure a **good-quality** finish to the product. • **I can weigh** and **measure** accurately (e.g. time, dry ingredients, and liquids).
Evaluating processes and products	• I can start to evaluate a product against the original design specification and by carrying out tests. • I can evaluate their work both during and at the end of the assignment. • I can share my products and discuss with others • After **testing products, I can consider** their overall effectiveness in the task. • I can evaluate the key designs of individuals in design and technology has helped shape the world.
Food and Nutrition	• I understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • I know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • I can start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • I can begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

Year 5 Progression of Knowledge and Skills	
Vocabulary **Tools/materials**	**Vocabulary: (in addition to, and building on previous year- see also BOLD items above)** sketches, weigh, measure, good quality, testing products
Design 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	**Design For Manufacture:** ● I can start to **generate, develop, model and communicate** their ideas through discussion, **annotated sketches**, such as: cross- sectional and diagrams, pattern pieces. ● I can begin to use research design. These products will inform the design of **a functional and appealing product** that is fit for purpose. ● I know there are links with Mathematics and Science. ● I can begin to understand the limitations of a material. ● I can understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.
	Creative Risk: ● I know links with Mathematics through measuring. ● I can test materials for their appropriate waterproof properties.
	Food: ● I can begin to understand that seasons may affect the food available (herbs). ● I know how to change the flavours of food.
Make 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	Design For Manufacture: ● I know, with growing confidence, to select appropriate materials, tools and techniques. ● I know the limitations of building a product from wood. ● I can 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.
	Creative Risk: ● I know that a models shape and material changes its structural integrity and reliability. ● I can, growing confidence, cut and join with accuracy to ensure a **good-quality** finish to the product.
	Food: ● **Weigh** and **measure** accurately (e.g. time, dry ingredients, and liquids).
Evaluating 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	Design For Manufacture: ● I can evaluate their work both during and at the end of the assignment.
	Creative Risk: ● I can start to evaluate a product against the original design specification and by carrying out tests on water-proof materials. ● I can evaluate their work both during and at the end of the assignment. ● After **testing products,** I can consider their overall effectiveness in the task. ● I can evaluate the key designs of individuals in design and technology has helped shape the world.
	Food: ● After **testing products, I can consider** their overall effectiveness in the task.

Technical knowledge **a**pply 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.	Design For Manufacture: ● I can, with growing confidence, apply a range of finishing techniques, including those from art and design ● I know key parts of a boat's design e.g. hull ● I know that Hull shape is affected by its design e.g. Aircraft carriers
	Creative Risk: ● I know that dams serve a purpose when retaining water for drinking and protection against flooding
	Food: ● I can begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health. ● I know about seasonal herbs and their use for scent or flavour.

Assessment End Point Year 5	
Knowledge	**Skills**
● I know about the shape and design of a boat. ● I know about seasonal herbs and their use for scent or flavour. ● I know the purpose of the dam. ● I know that a stable structure and appropriate materials are necessary to provide support (a dam). ● I know the hazard around a variety of tools to ensure I'm safe e.g. wood saw, spokes shave.	● I can cut, join, shape wooden products (and understand its limitations). ● I can test and prototype materials. ● I can select and cut herbs and other seasonal ingredients. ● I can select seasonal herbs for scent or flavour and can be used in a balanced diet. ● I can use a range of cooking techniques: picking, crushing, pasting, tearing. ● I can test and evaluate different materials (against a criteria) to succeed in its purpose, throughout the making process. ● I can saw, clamp and shape wooden products and understand their limitations.