DESIGN TECHNOLOGY CURRICULUM MAP
SKILLS, KNOWLEDGE AND UNDERSTANDING PROGRESSION

National Curriculum	Year 3	Year 4	Year 5	Year 6
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	Begin to research before designing what a familiar product needs to include. Describe and understand the purpose of a product. Follow a design criterion. Have at least one idea about how to create a product. Create a plan which shows equipment and tools needed. Describe a design using an accurately labelled sketch. Make design decisions with support if needed. Explain verbally how a product will work.	Begin to research before designing what a product needs to include. Show and explain how a design meets a range of requirements. Describe and understand the purpose of a product. Follow a design criterion. Have more than one idea about how to a create product and select the most appropriate. Create a plan which shows order, equipment, and tools. Describe design using an accurately labelled sketch and words. Make independent design decisions. Explain in words how a product will work.	Use internet and discussions to research and design ideas and consider the view of the user to ensure that products are fit for purpose. Create own design criteria. Have a range of ideas about how to create a product. Produce a logical, realistic plan and explain it to others. Use annotated sketches in a design plan. Make independent design decisions considering time and resources. Clearly explain how parts of product will work and how a product will appeal to an audience. Model and refine design ideas by making prototypes and pattern pieces.	Draw on market research to inform design. Use research of user's individual requirements for design. Identify features of design that will appeal to the intended user. Create own design criteria and come up with innovative design ideas. Follow and refine a logical plan. Use annotated sketches in a detailed design plan. Make design decisions, considering time and resources and model and refine ideas by making prototypes and pattern pieces. Clearly explain how parts of design will work and how they are fit for purpose.

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	Select from a range of suitable tools/equipment and begin to use them competently. Work through a plan in order. Begin to measure, mark out, cut simple shapes with some accuracy. Begin to develop fine motor skills to cut and assemble materials and components with some accuracy.	Select suitable tools and equipment and be able to verbally explain choices in relation to required techniques. Select appropriate materials, fit for purpose and explain choices. Work through a plan in order. Measure, mark out, cut and shape materials/components with increasing accuracy and independence to the nearest mm. Assemble, join and combine materials and components with some accuracy. Apply a range of finishing techniques with some accuracy.	Select appropriate materials, fit for purpose; explain choices and consider functionality. Create and follow a detailed step by-step plan. Use selected tools/equipment with a good level of precision and increasing dexterity. Accurately draw, mark out and cut materials/components and accurately assemble, join and combine those materials/components. Mainly accurately apply a range of finishing techniques. Begin to be resourceful with practical problems. Begin to evaluate throughout the making process, (Is everything going to plan?)	Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics. Create, follow, and adapt detailed step-by-step plans and produce suitable lists of tools, equipment, materials needed, considering constraints. Use selected tools and equipment precisely. Accurately measure, mark out, cut and shape materials/components to the nearest mm and accurately assemble, join and combine those materials/components. Accurately apply a range of finishing techniques. Be resourceful with practical problems and identify how to make changes to improve quality of finished product. Introduce quality control checks throughout the process of making.

EVALUATE 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	Begin to evaluate through teacher-led discussions existing and familiar products, considering how well they have been made, what materials have been used and how they are fit for purpose. Look at given design criteria while designing and making and use design criteria to evaluate finished product. Discuss ways in which their design could have been improved. Learn when and where and by whom familiar products were designed.	Evaluate existing products through discussion, considering how well they have been made, which materials have been used, how they have been made and how they are fit for purpose. Help to create design criteria before designing and making and then use criteria to evaluate product. Consider and explain how the original design could have been improved. Learn about some inventors/designers/ engineers of ground-breaking products.	Evaluate and give written opinions on existing products, considering how well they've been made, materials used, whether they work, how they have been made and whether they are fit for purpose. Create design criteria and evaluate finished product against specification, considering purpose and appearance. Begin to evaluate before product is finished. Test and evaluate final product and consider the views of others when considering how to improve their work.	Create design criteria and evaluate the quality of their design throughout the making process to consider the product`s purpose and appearance. Keep checking the design is best it can be through quality control checks. Test and evaluate final product; explain what would improve it and the effect different resources may have had. Learn about some key individuals and how their inventions have helped to shape the world.
TECHNICAL KNOWLEDGE 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	Use appropriate materials and work accurately to make cuts and holes. Join materials. Begin to make strong structures.	Measure and draw simple shapes carefully to the nearest mm. Attempt to make product strong. Continue working on product even if original didn't work. Make a strong, stiff structure. Use levers to create movement. Incorporate an electrical circuit into a design.	Select materials carefully, considering intended use of product and appearance. Measure accurately enough to ensure precision. Ensure product is strong and fit for purpose. Begin to use cams to create movement.	Select materials carefully, considering intended use of the product, the aesthetics and functionality. Reinforce and strengthen a 3D frame.

COOKING AND NUTRITION 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.	**Understand what makes a healthy and varied diet.**	**Understand seasonality and where a variety of ingredients come from.**	**Basic cooking skills: measure ingredients/chop vegetables and following a simple recipe.**	**Use a range of cooking techniques – boiling and baking.**