Lowe's Wong Junior School Design and Technology Progression Map

	By the end of Year 3	By the end of Year 4	By the end of Year 5	By the end of Year 6
Cooking and Nutrition	**Children can…** • Use a range of techniques such as mashing, whisking, crushing, grating, and cutting • Follow a recipe, using appropriate utensils and measuring skills to prepare savoury food. • use and become more confident using a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures. • Understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body		**Children can…** • Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality • Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world • Demonstrate how to use a range of cooking techniques, (e.g .griddling, grilling, frying and boiling) • Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma	
Structures	**Children can…** • Understand that materials have both functional properties and aesthetic qualities • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products			
Textiles	•	**Children can…** • Use a wider range of materials and components, including textiles • Cut, shape and score materials with some degree of accuracy • Assemble, join and combine material and components with some degree of accuracy		**Children can…** • Demonstrate how to measure, cut, shape and join fabric with accuracy to make a product • Join textiles with an appropriate sewing technique • Select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming and fabric paints
Electrical Systems		**Children can…** • Assemble, join and combine material and components with some degree of accuracy; • Make and represent simple electrical circuits, such as a series and parallel, and components to create functional products.		
Mechanisms/ Mechanical Systems			**Children can…** • Begin to explore and use mechanical systems in their products [for example, gears, pulleys, levers and linkages]	**Children can…** • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • Select a wider range of tools and equipment safely including as saws, screwdrivers, sandpaper and wood glue • Confidently choose materials based on their functional properties and aesthetic qualities

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	By the end of Year 3	By the end of Year 4	By the end of Year 5	By the end of Year 6
Design	**Children can…** • Use their knowledge of existing products and their own experience to help generate their ideas • Design products that have explored purpose and are aimed at an intended user • Explain how their products will look and work through talking and simple annotated drawings • Understand and follow simple design criteria • Design models using simple computing software • Plan and test ideas using templates and mock-ups	**Children can…** • Investigate existing products and use their own experience to generate ideas and inform discussions • Design products that have a clear purpose and different audiences • Develop and present ideas through discussion, annotated drawings and prototypes • Create a design criteria to follow • When planning, start to explain their choice of materials and components including function and aesthetics • Plan and test ideas using templates and mock-ups and alter designs accordingly	**Children can…** • Research existing products to generate purposeful questions to inform developed ideas • Use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Consider innovative, functional and appealing products • When designing, explore different initial ideas before coming up with a final design • Begin to generate a range of design ideas and clearly communicate final designs • Understand the importance of availability and costings of resources when planning out designs	**Children can…** • Use their knowledge of a broad range of existing products to help generate their ideas • Use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market • Design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user • Present how particular parts of their products work • use annotated sketches, cross-sectional drawings, cross-sectional and exploded diagrams (possibly including computer-aided design), prototypes, and pattern pieces to develop and communicate their ideas • Consider the availability and costings of resources when planning out designs • Generate a range of design ideas and clearly communicate final design.
Evaluate	**Children can…** • Explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose • Explore what materials/ingredients products are made from and suggest reasons for this • Evaluate their product against the provided original design criteria • Evaluate the key events and designs of individuals in design and technology that have helped shape the world	**Children can…** • Make confident evaluations of existing products, explaining the purpose of the product and whether it is designed to meet the intended purpose • Research what materials or ingredients are made from and suggests reasons for this • Evaluate their product against their own original design criteria • Evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.	**Children can…** • Understand the importance of competitor analysis of other products on the market • Explore evaluating each step in the design process and its fitness for its purpose and audience • Begin to evaluate their ideas and products against the original design criteria suggesting changes as needed.	**Children can…** • complete detailed competitor analysis of other products on the market • Critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make • Evaluate their ideas and products against the original design criteria, making changes as needed
Vocabulary	Design criteria, research, annotation, final design, modified, design features, generate, refine ideas, mock-ups, ingredients, instructions, techniques, food group, carbohydrates, proteins, dairy, citrus, fair trade, flavour, nutrition, savoury, starch, taste, texture, utensil,	Design criteria, research, annotation, final design, reclaimed, recycled materials, modified, design features, electrical circuit, complete circuit, bulbs, battery buzzer, net, generate, model, packaging, assemble, refine ideas, mock-ups, cartouche, sarcophagus, embalmer, stitching??, design	Key audience, product, research, prototype, diagrams, computer aided design, pulley system, cam system, lever, joint, saw, components, functions, aesthetic properties, finishing techniques, evaluation,	Key audience, product, research, prototype, diagrams, computer aided design components, functions, aesthetic properties, finishing techniques, evaluation, sectional diagram, floral, decortion, aesthetics, symmetrical, beauty, foliage, flowers, secateurs,