

Westgate CP School and Nursery Progression of Skills: Design and Technology



The document below has been designed to show how we will cover all of the relevant art knowledge and skills across our school. The context in which these are taught is left to the discretion of teachers, where possible trying to match the content to their year group's topic.

EYFS - We have selected the Early Learning Goals that link most closely to the Design and Technology National Curriculum		
Expressive Arts and Design (Exploring and Using Media and Materials)	Expressive Arts and Design (Being Imaginative)	Physical Development (Movement and Handling)
<ul style="list-style-type: none"> Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 	<ul style="list-style-type: none"> Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. 	<ul style="list-style-type: none"> Children handle equipment and tools effectively, including pencils for writing.

KS1 National Curriculum Expectations	KS2 National Curriculum Expectations
<p>Pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable 	<p>Pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> 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 <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> investigate and analyse a range of existing products evaluate their ideas and products against design criteria and consider the views of others to improve their work

• explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.

• understand how key events and individuals in design and technology have helped 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.

Yr	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
1	<ul style="list-style-type: none"> Suggest ideas and explain what they are going to do Think of own ideas for design. Use pictures and words to make a simple plan. Explain how I want to make the product (verbally or on paper) Design a product for myself, following design criteria. Work in a range of contexts 	<ul style="list-style-type: none"> Explain what is being made and why. Choose appropriate tools and equipment for the purpose. Begin to measure materials to use in model or structure Assemble, join and combine materials and components 	<ul style="list-style-type: none"> Say whether their product does what it is meant to (fits the design brief) Say what is good and bad about own and pre-existing products. Say how the product could be improved 	<ul style="list-style-type: none"> Make a product which moves (winding mechanism) Describe how something works Make a model stronger 	<ul style="list-style-type: none"> Use and understand basic hygiene practices Know how to peel, cut, grate and mix foods (with close supervision). Understand where food comes from
2	<ul style="list-style-type: none"> Think of own ideas and plan what to do next. Develop ideas through discussion, observation, Make a simple plan using drawings and labels Follow a design brief when planning Design a range of products, working in a range of contexts 	<ul style="list-style-type: none"> Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, explaining why they were chosen. Use relevant vocab to name and describe the tools Use hand tools safely and appropriately Assemble, join and combine materials and components Begin to measure materials to use in a model or structure 	<ul style="list-style-type: none"> Say whether their product does what it is meant to (fits the design brief) Suggest what went well and what would be done differently when evaluating their own product Explain how a product could be improved 	<ul style="list-style-type: none"> Describe how a product works Use sheet materials and construction tools (with appropriate supervision.) 	<ul style="list-style-type: none"> Use and understand basic hygiene practices Describe the ingredients used Know how to peel, cut, grate and mix foods (with close supervision). Understand where food comes from

Yr	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
3	<ul style="list-style-type: none"> Create a design that meets a range of requirements. Explain how the design meets the design brief Consider the equipment and tools needed when planning. Produce a design plan, using an accurately labelled diagram, and in words (labels / sentences) Explain, develop and communicate design proposals and begin to amend as needed 	<ul style="list-style-type: none"> Choose the most appropriate tools and techniques for a given task. Use the tools and equipment appropriately and safely Choose material/textile for suitability and appearance Measure, cut and make holes accurately. Assemble and join materials and components accurately. Ensure that my design looks attractive when completed 	<ul style="list-style-type: none"> Evaluate their product against the original design brief, explaining how well it met the intended purpose Suggest what could be changed to improve a design, beginning to link this to the design brief. Suggest what went well and what would be done differently to improve their design when evaluating 	<ul style="list-style-type: none"> Explain how a product works. Know about movement of simple mechanisms Make a product with a moving element Use resistant materials and construction tools with appropriate supervision. 	<ul style="list-style-type: none"> Use and understand and safety hygiene practices Describe how ingredients are combined Understand where food comes from Know how to peel, cut, slice, grate, mix, shape and begin to cook foods
4	<ul style="list-style-type: none"> Generate ideas, considering the purposes for which they are designing Produce a detailed plan that shows specific features. Suggest improvements to develop and refine a planned idea. Develop a clear idea of what has to be done from start to finish that can be explained to others 	<ul style="list-style-type: none"> Choose the most appropriate tools and techniques for a given task, explaining reasons. Use the tools and equipment appropriately and safely Use a range of tools and equipment with accuracy. Measure, mark out, join, assemble materials and components with accuracy. Sew using a range of different stitches. Measure, tape or pin, cut and join fabric with some accuracy 	<ul style="list-style-type: none"> Evaluate work during and after completion of product Evaluate their products carrying out appropriate tests. Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief. 	<ul style="list-style-type: none"> Use sheet materials and construction tools with appropriate supervision. Cut, then join textiles using a running stitch, over sewing, back stitch or fastenings. Understand seam allowances, create simple patterns and appropriate decoration techniques (e.g. applique). 	<ul style="list-style-type: none"> Demonstrates knowledge of how to be both hygienic and safe when using food. Weigh and measure accurately (time, ingredients, liquids) Know how to peel, cut, grate, mix, mould and begin to cook foods

Yr	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
5	<ul style="list-style-type: none"> Generate a range of ideas after collating relevant information (i.e. users' views/ market research). Produce a detailed step-by-step plan Make a prototype before making a final version Suggest alternative plans, considering the positive features and draw backs Explains how a product will appeal to a specific audience 	<ul style="list-style-type: none"> Select appropriate materials, tools and techniques Measure and mark out accurately Use skills in using different tools and equipment safely and accurately Cut and join with accuracy to ensure a good-quality finish to the product Evaluate and improve a product throughout the making process 	<ul style="list-style-type: none"> Evaluate the appearance and function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose. Suggest improvements that could be made, considering materials and methods that have been used. 	<ul style="list-style-type: none"> Use sheet and construction materials appropriately. Understand how mechanical systems such as cams, pulleys or gears create movement (linked to science topic on forces) 	<ul style="list-style-type: none"> Apply the rules for basic food hygiene and other safety practices e.g. hazards relating to use of ovens Cut, mix, mould and begin to use hobs to heat food with appropriate supervision.
6	<ul style="list-style-type: none"> Use market research to inform planning and ideas Can follow and refine plans Justifies plans in a convincing way Produce a detailed, step by step plan Test a refine a product Work within a budget 	<ul style="list-style-type: none"> Select appropriate tools, materials, components and techniques Use tools safely and accurately Construct products using permanent joining techniques Consider the aesthetic qualities and functionality of product as making it, refining details as necessary. Make modifications as they go along Produce a quality product 	<ul style="list-style-type: none"> Evaluate a product against clear criteria Record evaluations using drawings with labels Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make. 	<ul style="list-style-type: none"> Assemble components to make working models Use sheet and construction materials appropriately. Pin, sew and stitch materials together to create a product. Apply understanding of how to strengthen, stiffen, and reinforce more complex structures Understand and use electrical systems in a product 	<ul style="list-style-type: none"> Cut, mix, mould and use hobs to heat food, developing independence with this as appropriate.