Bealings School
Design Technology – Progression of skills

| | EYFS (personal, social and emotional development; fine motor skills; expressive arts and design) | Years 1 and 2 | Years 3 and 4 | Years 5 and 6 |
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| Designing – understanding contexts, users and purposes | • work confidently within a range of contexts (provided by MOE), such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment<br>• state what products they are making<br>• describe what their products are for | • work confidently within a range of contexts (provided by MOE), such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment<br>• state what products they are making<br>• say whether their products are for themselves or other users<br>• describe what their products are for<br>• say how their products will work<br>• say how they will make their products suitable for their intended users<br>• use simple design criteria to help develop their ideas | • work confidently within a range of contexts (provided by MOE), such as imaginary, story-based, the home, school, leisure, culture, enterprise, industry and the wider environment<br>• describe the purpose of their products<br>• indicate the design features of their products that will appeal to intended users<br>• explain how particular parts of their products work<br>• gather information about needs and wants of particular individuals and groups<br>• develop their own design criteria and use these to inform their ideas | • work confidently within a range of contexts (provided by MOE), such as imaginary, story-based, the home, school, leisure, culture, enterprise, industry and the wider environment<br>• describe the purpose of their products<br>• indicate the design features of their products that will appeal to intended users<br>• explain how particular parts of their products work<br>• carry out research, using surveys, interviews, questionnaires and web-based resources<br>• identify the needs, wants, preferences and values of particular individuals and groups<br>• develop a simple design specification to guide their thinking |

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| Designing - generating, developing, modelling and communicating ideas | • generate ideas by drawing on their own experiences<br>• develop and communicate ideas by talking and drawing | • generate ideas by drawing on their own experiences<br>• use knowledge of existing products to help come up with ideas<br>• develop and communicate ideas by talking and drawing<br>• model ideas by exploring materials, components and construction kits and by making templates and mock-ups<br>• use ICT, where appropriate, to develop and communicate their ideas | • share and clarify ideas through discussion<br>• model their ideas using prototypes and pattern pieces<br>• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas<br>• generate realistic ideas, focusing on the needs of the user<br>• make design decisions that take account of the availability of resources | • share and clarify ideas through discussion<br>• model their ideas using prototypes and pattern pieces<br>• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas<br>• use computer-aided design to develop and communicate their ideas<br>• generate realistic ideas, focusing on the needs of the user<br>• make design decisions that take account of the availability of resources |
| Making - Planning | • select from a range of tools and equipment, explaining their choices | • plan by suggesting what to do next<br>• select from a range of tools and equipment, explaining their choices<br>• select from a range of materials and components according to their characteristics | • select tools and equipment suitable for the task<br>• explain their choice of tools and equipment in relation to the skills and techniques they will be using<br>• select materials and components suitable for the task<br>• explain their choice of materials and components according to functional properties and aesthetic qualities<br>• order the main stages of making | • select tools and equipment suitable for the task<br>• explain their choice of tools and equipment in relation to the skills and techniques they will be using<br>• select materials and components suitable for the task<br>• explain their choice of materials and components according to functional properties and aesthetic qualities<br>• produce appropriate lists of tools, equipment and materials that they need<br>• formulate step-by-step plans as a guide to making |

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| Making – Practical skills and techniques | • use a range of small tools, including scissors (ELG)<br>• safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (ELG)<br>• share their creations, explaining the process they have used; | • follow procedures for safety and hygiene<br>• use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components<br>• measure, mark out, cut and shape materials and components<br>• assemble, join and combine materials and components<br>• use finishing techniques, including those from art and design | • follow procedures for safety and hygiene<br>• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components<br>• measure, mark out, cut and shape materials and components with some accuracy<br>• assemble, join and combine materials and components with some accuracy<br>• apply a range of finishing techniques, including those from art and design, with some accuracy | • follow procedures for safety and hygiene<br>• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components<br>• accurately measure, mark out, cut and shape materials and components<br>• accurately assemble, join and combine materials and components<br>• accurately apply a range of finishing techniques, including those from art and design<br>• use techniques that involve a number of steps<br>• demonstrate resourcefulness when tackling practical problems |
| Technical knowledge – making products work | • talk about the simple working characteristics of commonly used materials and components | • about the simple working characteristics of materials and components<br>• about the movement of simple mechanisms such as levers, sliders, wheels and axles<br>• how freestanding structures can be made stronger, stiffer and more stable<br>• that a 3-D textiles product can be assembled from two identical fabric shape<br>• that food ingredients should be combined according to their sensory characteristics | • how to use learning from science and maths to help design and make products that work<br>• that materials have both functional properties and aesthetic qualities<br>• that materials can be combined and mixed to create more useful characteristics<br>• that mechanical and electrical systems have an input, process and output<br>• use the correct technical vocabulary for the projects they are undertaking | • how to use learning from science and maths to help design and make products that work<br>• that materials have both functional properties and aesthetic qualities<br>• that materials can be combined and mixed to create more useful characteristics<br>• that mechanical and electrical systems have an input, process and output<br>• the correct technical vocabulary for the projects they are undertaking |

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| | | • the correct technical vocabulary for the projects they are undertaking | • how mechanical systems such as levers and linkages or pneumatic systems create movement<br>• how simple electrical circuits and components can be used to create functional products<br>• how to program a computer to control their products<br>• how to make strong, stiff shell structures<br>• that a single fabric shape can be used to make a 3D textiles product<br>• that food ingredients can be fresh, pre-cooked and processed | • how mechanical systems such as cams or pulleys or gears create movement<br>• how more complex electrical circuits and components can be used to create functional products<br>• how to program a computer to monitor changes in the environment and control their products<br>• how to reinforce and strengthen a 3D framework<br>• that a 3D textiles product can be made from a combination of fabric shapes<br>• that a recipe can be adapted by adding or substituting one or more ingredients |
| Evaluating – own ideas and products | • share their creations, explaining the process they have used (ELG)<br>• evaluate their creations by discussing elements they like and dislike, explaining their choices appropriately | • talk about their design ideas and what they are making<br>• make simple judgements about their products and ideas against design criteria<br>• suggest how their products could be improved | • identify the strengths and areas for development in their ideas and products<br>• consider the views of others, including intended users, to improve their work<br>• refer to their design criteria as they design and make<br>• use their design criteria to evaluate their completed products | • identify the strengths and areas for development in their ideas and products<br>• consider the views of others, including intended users, to improve their work<br>• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make<br>• evaluate their ideas and products against their original design specification |

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| Evaluating – existing products | • explore what products are and who or what they are for | • explore what products are and who or what they are for<br>• explore how products work and how or where they might be used<br>• explore what materials products are made from<br>• explore what they like and dislike about products | Pupils will be taught to investigate and analyse:<br>• how well products have been designed and made<br>• why materials have been chosen<br>• what methods of construction have been used<br>• the development of ground-breaking products<br>• how well products work to achieve their purposes<br>• how well products meet user needs and wants<br>• who designed and made the products<br>• where and when products were designed and made<br>• whether products can be recycled or reused | Pupils will be taught to investigate and analyse:<br>• how well products have been designed and made<br>• why materials have been chosen<br>• what methods of construction have been used<br>• how well products work to achieve their purposes<br>• how well products meet user needs and wants<br>• how much products cost to make<br>• how innovative products are<br>• how sustainable the materials in products are<br>• what impact products have beyond their intended purpose |
| Evaluating – key events and individuals | | | • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products |

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| Cooking and nutrition – where food comes from | • understand that some of our food can be grown in our locality | • that all food comes from plants or animals<br>• that food has to be farmed, grown elsewhere (e.g. home) or caught | • 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 | • that seasons may affect the food available<br>• how food is processed into ingredients that can be eaten or used in cooking |
| Food preparation, cooking and nutrition | • understand the importance of healthy food choices (ELG) | • how to name and sort foods into the five groups in The Eatwell Plate<br>• that everyone should eat at least five portions of fruit and vegetables every day<br>• how to prepare simple dishes safely and hygienically, without using a heat source<br>• how to use techniques such as cutting, peeling and grating | • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source<br>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking<br>• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate<br>• that to be active and healthy, food and drink are needed to provide energy for the body | • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source<br>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking<br>• that recipes can be adapted to change the appearance, taste, texture and aroma<br>• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health |