

Progression in Design Technology

Year 1	Magic toymaker - Mechanisms Time Travellers - Textiles Hooray...Let's go on holiday - Structures	Design -State what products they are designing and making (PDA2) -Say whether their products are for themselves or other users (PDA3) -Say how they will make their products suitable for their intended purpose (PDA6) -Generate ideas by drawing on their own experiences (PDB1) Use knowledge of existing products to help come up with ideas (PDB2) Make -Plan by suggesting what to do next (PMA1) -Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components (PMB2) -Assemble, join and combine materials and components (PMB4) Evaluate -Talk about their design ideas and what they are making (PEA1) -Evaluate who products are for (PEB2) -Evaluate how products work (PEB4) -Evaluate what they like and dislike about products (PEB8) Technical knowledge -To know about the movement of simple mechanisms such as levers, sliders, wheels and axles (PTK2) -To use the correct technical vocabulary for the project they are undertaking (PTK6) Design -Describe what their products are for (PDA4) -Use simple design criteria to help develop their designs (PDA7) -Use knowledge of existing products to help come up with ideas (PDB2) -Develop and communicate ideas by talking and drawing (PDB3) Make -Plan by suggesting what to do next (PMA1) -Select from a range of tools and equipment, explaining their choices (PMA2) -Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components (PMB2) -Measure, mark out, cut and shape materials and components (PMB3) Evaluate -Evaluating own ideas - Suggest how their products could be improved (PEA3) -Evaluating existing products -Evaluate what products are for (PEB2) -Evaluate existing products - Evaluate where products might be used (PEB6) Technical knowledge -To understand that a 3-D textiles product can be assembled from two identical fabric shapes (PTK4)
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		Design -Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment (PDA1) -Develop and communicate ideas by talking and drawing (PDB3) -Model ideas by exploring materials, components and construction kits and by making templates and mockups (PDB4) Make -Select from a range of materials and components according to their characteristics (PMA3) -Measure, mark out, cut and shape materials and components (PMB3) -Use finishing techniques, including those from art and design (PMB5) Evaluate -Evaluating own ideas - Make simple judgements about their products and ideas against design criteria (PEA2) Technical knowledge To understand how freestanding structures can be made stronger, stiffer and more stable (PTK3)
Year 2	London's Burning - Structures We're going to the zoo! - Mechanisms Land A'Hoy! - Food	Design -Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment (PDA1) -Use simple design criteria to help develop their ideas (PDA7) -Generate ideas by drawing on their own experiences (PDB1) -Develop and communicate ideas by talking and drawing (PDB3) Make -Select from a range of materials and components according to their characteristics (PMA3) -Assemble, join, and combine materials and components (PMB4) -Use finishing techniques, including those from art and design (PMB5) Evaluate -Evaluating existing products - Evaluate what products are (PEB1) -Evaluating existing products - Evaluate what materials products are made from (PEB7) Technical knowledge To know about the simple working characteristics of materials and components (PTK1) To know how freestanding structures can be made stronger, stiffer and more stable (PTK3) Design -State what products they are designing and making (PDA2) - Say how their products will work (PDA5) -Use knowledge of existing products to help come up with ideas (PDB2) -Use information and communication technology, where appropriate, to develop and communicate their ideas (PDB5) Make -Select from a range of tools and equipment, explaining their choices (PMA2) -Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components (PMB2) -Assemble, join and combine materials and components (PMB4)

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		Evaluate -Evaluating own ideas and products – talk about their design ideas and what they are making (PEA1) -Evaluating own ideas and products – suggest how their products could be improved (PEA3) -Evaluating existing products – Evaluate how products work (PEB4) -Evaluating existing products – Evaluate how products are used (PEB5) Technical knowledge -To know about the movement of simple mechanisms such as wheels and axles (PTK2) -To understand/use the correct technical vocabulary for the projects they are undertaking (PTK6) Design -State what products they are designing and making (PDA2) -Say how they will make their products suitable for their intended users (PDA6) -Develop and communicate ideas by talking and drawing (PDB3) Make -Follow procedures for safety and hygiene (PMB1) Evaluate -Evaluating existing products – -Evaluate who products are for (PEB2) -Evaluate what they like and dislike about products (PEB8) Technical knowledge -To understand that food ingredients should be combined according to their sensory characteristics (PTK5) -To understand that all foods come from plants or animals (PCNA1) -To understand that food has to be farmed, grown elsewhere (e.g. home) or caught (PCNA2) -To understand how to name and sort foods into the five groups in 'The Eatwell plate' (PCNB1) -To understand that everyone should eat at least five portions of fruit and vegetables every day (PCNB2) -To understand how to prepare simple dishes safely and hygienically without using a heat source (PCNB3) -To know how to use techniques such as cutting, peeling and grating (PCNB4)
Year 3/4	Cycle B Mayans – Chocolate Heaven - Food Extreme Earth - Mechanisms Ancient Greece - Electronic systems	Cycle B Design -To gather information about the needs and wants of particular individuals and groups (PDA8) -To make design decisions that take account of the availability of resources (PDB7) -To use computer-aided design to develop and communicate their ideas (PDB13) Make -Generate realistic ideas, focusing on the needs of the user (PDB8) Evaluate -Evaluating existing products – Evaluate who designed and made the products (PEB9) -Evaluating existing products – Evaluate where products were designed and made (PEB10) -Evaluating existing products – Evaluate when products were designed and made (PEB11) -Evaluating existing products – Evaluate whether products can be recycled or reused (PEB12)

Progression in Design Technology

		-Evaluating existing products - Evaluate how well products have been designed (PEB17) -Evaluating existing products - Evaluate how well products achieve their purposes (PEB22) Technical knowledge -To understand that ingredients can be fresh, pre-cooked and processed (PTK12) -To 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 (PCNA5) -To understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eatwell plate' (PCNB5) -To understand that to be active and healthy, food and drink are needed to provide energy for the body (PCNB6) Design -Develop their own design criteria and use these to inform their idea (PDA9) -Indicate the design features of their products that will appeal to intended users (PDA15) Make design decisions that take account of the availability of resources (PDB7) Make -Measure, mark out, cut and shape materials and components with some accuracy (PMB6) -Assemble, join and combine materials and components with some accuracy (PMB7) -Apply a range of finishing techniques, including those from art and design, with some accuracy (PMB8) Evaluate -Evaluating own ideas and products - Use their design criteria to evaluate their completed products (PEA5) -Evaluating existing products - Evaluate what methods of construction have been used (PEB20) -Evaluating existing products - Evaluate how well products work (PEB21) Technical knowledge To understand how mechanical systems such as levers and linkages or pneumatic systems create movement (PTK7) Design -Explain how particular parts of their products work (PDA16) -Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas (PDB12) Make -Assemble, join and combine materials and components with some accuracy (PMB7) -Follow procedures for safety and hygiene (PMB14) -Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components (PMB15) Evaluate -Evaluating own ideas and products - Refer to their design criteria as they design and make (PEA4) -Evaluating own ideas and products - Use their design criteria to evaluate their completed designs (PEA5) Technical knowledge -To understand how simple electrical circuits and components can be used to create functional products (PTK8) -To understand how to program a computer to control their products (PTK9) -To understand how to use learning from science to help design and make products work (PTK19)
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	-To use the correct technical vocabulary for the projects they are undertaking (PTK24) Cycle A Design -To make design decisions that take account of the availability of resources (PDB7) -Share and clarify ideas through discussion (PDB10) Make -Order the main stages of making (PMA4) -Explain their choice of materials and components according to functional properties and aesthetic qualities (PMA10) -Assemble, join and combine materials and components with some accuracy (PMB7) -Apply a range of finishing techniques, including those from art and design, with some accuracy (PMB8) Evaluate -Evaluating existing products - Evaluate when products were designed and made (PEB11) -Evaluating existing products - Evaluate what methods of construction have been used (PEB20) Technical knowledge -To understand how to make strong, stiff shell structures (PTK10) Design -Develop their own design criteria and use these to inform their idea (PDA9) -Describe the purpose of their products (PDA14) Generate realistic ideas, focusing on the needs of the user (PDB6) -Model their ideas using prototypes and pattern pieces (PDB11) Make -Order the main stages of making (PMA4) -Assemble, join and combine materials and components with some accuracy (PMA7) -Select materials and components suitable for the task (PMA9) -Measure, mark out, cut and shape materials and components with some accuracy (PMB6) -Assemble, join and combine materials and components with some accuracy (PMB7) Evaluate -Refer to their design criteria as they design and make (PEA4) -Evaluating own ideas and products - Use their design criteria to evaluate their completed products (PEA5) Technical knowledge -To understand that a single fabric can be used to make a 3D textiles product (PTK11) -To understand how to use learning from mathematics to help design and make products that work (PTK20) Design -Gather information about the needs and wants of particular individuals and groups (PDA8) Make Order the main stages of making (PMA4) Follow procedures for safety and hygiene (PMB14)
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Progression in Design Technology

		Evaluate -Evaluating own ideas and products – Refer to their design criteria as they design and make (PEA4) -Evaluating existing products – Evaluate where products were designed and made (PEB10) -Evaluating existing products – Evaluate how well products meet user needs and wants (PEB23) Technical knowledge -To 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 (PCNA5) -To understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eatwell plate' (PCNB5) -To understand that to be active and healthy, food and drink are needed to provide energy for the body (PCNB6) -To understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source (PCNB9) -To understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking (PCNB10)
Year 5	Romans - Mechanisms Our Planet - Textiles Vikings - Structures	Design -Develop a simple design specification to guide their thinking (PDA12) -Describe the purpose of their products (PDA14) Make -Produce appropriate lists of tools, equipment and materials that they need (PMA5) -Formulate step-by-step plans as a guide to making (PMA6) -Accurately measure, mark out, cut and shape materials and components (PMB9) -Accurately assemble, join and combine materials and components (PMB10) -Use techniques that involve a number of steps (PMB12) -Demonstrate resourcefulness when tackling problems (PMB13) -Follow procedures for safety and hygiene (PMB14) Evaluate -Evaluating own ideas and products – Evaluate their ideas and products against their original design specification (PEA7) -Evaluating key events and individuals – To know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products (PEC1) Technical knowledge - To understand how mechanical systems such as cams or pulleys or gears create movement (PTK13) - To understand that mechanical and electrical systems have an input, process and output (PTK23) Design -Carry out research, using surveys, interviews, questionnaires and web-based resources (PDA10) -Identify the needs, wants, preferences and values of particular individuals and groups (PDA11) -Generate innovative ideas, drawing on research (PDB8) -Make design decisions, taking account of constraints such as time, resources and cost (PDB9) -Model their ideas using prototypes and pattern pieces (PDB11) Make

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		-Formulate step-by-step plans as a guide to making (PMA6) -Accurately measure, mark out, cut and shape materials and components (PMB9) -Accurately assemble, join and combine materials and components (PMB10) -Follow procedures for safety and hygiene (PMB14) Evaluate -Evaluating own ideas and designs - Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make (PEA6) -Evaluating existing products - Evaluate how much products cost to make (PEB13) -Evaluating existing products - Evaluate how sustainable the materials in products are (PEB15) -Evaluating existing products - Evaluate how well products have been designed (PEB17) -Evaluating existing products - Evaluate how well products have been made (PEB18) -Evaluating existing products - Evaluate why materials have been chosen (PEB19) Technical knowledge -To understand that a 3D textiles product can be made from a combination of fabric shapes (PTK17) -To understand that materials have both functional properties and aesthetic qualities (PTK21) Design -Identify the needs, wants, preferences and values of particular individuals and groups (PDA11) -Develop a simple design specification to guide their thinking (PDA12) -Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment (PDA13) -Make design decisions, taking account of constraints such as time, resources and cost (PDB9) Design -Accurately measure, mark out, cut and shape materials and components (PMB9) -Accurately assemble, join and combine materials and components (PMB10) Evaluate -Evaluating own ideas and products - Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make (PEA6) -Evaluating own ideas and products - Identify the strengths and areas for development in their ideas and products (PEA8) Technical knowledge -To understand how to reinforce and strengthen a 3D framework (PTK16) -To understand that materials can be combined to create more useful characteristics (PTK22)
Year 6	Which Victorian invention has changed the world the most? - Mechanism	Design -Develop a simple design specification to guide their thinking (PDA12) -Indicate the design features of their products that will appeal to intended users (PDA15) -Make design decisions, taking account of constraints such as time, resources and cost (PDB9) -Share and clarify ideas through discussion (PDB10) Make -Accurately measure, mark out, cut and shape materials and components (PMB9)

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	What makes Britain great? - Food Is War the answer? - Electrical Systems	-Accurately assemble, join and combine material and components (PMB10) -Accurately apply a range of finishing techniques, including those from art and design (PMB11) -Follow procedures for safety and hygiene (PMB14) Evaluate -Evaluating own ideas and products - Critically evaluate the quality of the design, manufacture and fitness for purpose of their products (PEA6) -Evaluating own ideas and products - Identify the strengths and areas for development in their ideas and products (PEA8) -Evaluating own ideas and products - Consider the views of others, including intended users, to improve their work (PEA9) -Evaluating existing products - Evaluate what impact products have beyond their intended purpose (PEB16) Technical knowledge -To understand how mechanical systems such as cams or pulleys or gears create movement (PTK13) -To understand how to use learning from science to help design and make products that work (PTK19) -To understand that mechanical and electrical systems have an input, process and output (PTK23) -To use the correct technical vocabulary for the projects they are undertaking (PTK24) Design -Carry out research, using surveys, interviews, questionnaires and web-based resources (PDA10) -Identify the needs, wants, preferences and values of particular individuals and groups (PDA11) -Make design decisions, taking account of constraints such as time, resources and cost (PDB9) Make -Formulate step-by-step plans as a guide to making (PMA6) -Follow procedures for safety and hygiene (PMB14) -Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components (PMB15) Evaluate -Evaluating key events and individuals - To know about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products (PEC1) -Evaluating existing products - Evaluate how much products cost (PEB13) -Evaluating existing products - Evaluate how innovative products are (PEB14) -Evaluating existing products - Evaluate how sustainable materials in products are (PEB15) Technical knowledge To understand that seasons may affect the food available (PCNA3) To understand how food is processed into ingredients that can be eaten or used in cooking (PCNA4) To 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 (PCNA5) To understand that recipes can be adapted to change the appearance, taste, texture and aroma (PCNB7) To understand that different food and drink contain different substances - nutrients, water and fibre - that are needed for health (PCNB8)
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		-To understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source (PCNB9) To understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking (PCNB10) Design -Develop a simple design specification to guide their thinking (PDA12) -Describe the purpose of their products (PDA14) -Generate innovative ideas, drawing on research (PDB8) -Use annotated sketches, cross-sectional drawing and exploded diagrams to develop and communicate their ideas (PDB12) Make -Formulate step-by-step plans as a guide to making (PMA6) -Explain their choice of tools and equipment in relation to the skills and techniques they will be using (PMA8) -Select materials and components suitable for the task (PMA9) Evaluate -Evaluating own ideas and products - value their ideas and products against their original design specification (PEA7) -Evaluating own ideas and products - Consider the views of others, including intended users, to improve their work (PEA9) -Evaluating existing products - Evaluate how well products work (PEB21) Technical knowledge -To understand how more complex electrical circuits and components can be used to create functional products (PTK14) -To understand how to program a computer to monitor changes in the environment and control their products (PTK15) -To understand how to use learning from science to help design and make products that work (PTK19) -To understand that mechanical and electrical systems have an input, process and output (PTK23) -To use the correct technical vocabulary for the projects they are undertaking (PTK24)
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