**Hepp DT - Design Technology Progression Document**

\*\*This document is an amalgamation of information taken from DATA and Hepp DT\*\*

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| EYFS - Key Skills | EYFS Early Learning Goals |
| * Explore different materials freely, to develop their ideas about how to use them and what to make. * Develop their own ideas and then decide which materials to use to express them. * Join different materials and explore different textures. * Return to and build on their previous learning, refining ideas and developing their ability to represent them. * Create collaboratively, sharing ideas, resources and skills. | **ELG: Creating with Materials**  Children at the expected level of development will:   * Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; * Share their creations, explaining the process they have used.   **ELG: Fine Motor Skills**  Children at the expected level of development will:   * Use a range of small tools, including scissors, paint brushes and cutlery; * Begin to show accuracy and care when drawing |

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|  | **Year 1** | **Year 2** | | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Design** | **Key Stage 1** | | | **Lower Key Stage 2** | | **Upper Key Stage 2** | |
| **Understanding contexts,**  **users and purposes** | * work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment * state what products they are designing and making * say whether their products are for themselves or other users * describe what their products are for * say how their products will work * say how they will make their products suitable for their intended users * use simple design criteria to help develop their ideas | | | * work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment * describe the purpose of their products indicate the design features of their products that will appeal to intended users * explain how particular parts of their products work * gather information about the needs and wants of particular individuals and groups * develop their own design criteria and use these to inform their ideas | | * work confidently within a range of contexts, such as the home, school, leisure, culture,enterprise, industry and the wider environment * describe the purpose of their products * indicate the design features of their products that will appeal to intended users * explain how particular parts of their products work * carry out research, using surveys, interviews, questionnaires and web-based resources * identify the needs, wants, preferences and values of particular individuals and groups * develop a simple design specification to guide their thinking | |
| **Generating, developing,**  **modelling and**  **communicating ideas** | * generate ideas by drawing on their own experiences * use knowledge of existing products to help come up with ideas * develop and communicate ideas by talking and drawing * model ideas by exploring materials, components and construction kits and by making templates and mock-ups * use information and communication technology, where appropriate, to develop and communicate their ideas | | | * share and clarify ideas through discussion * model their ideas using prototypes and pattern pieces * use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * use computer-aided design to develop and communicate their ideas * generate realistic ideas, focusing on the needs of the user * make design decisions that take account of the availability of resources | | * share and clarify ideas through discussion * model their ideas using prototypes and pattern pieces * use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * use computer-aided design to develop and communicate their ideas * generate innovative ideas, drawing on research * make design decisions, taking account of constraints such as time, resources and cost | |
| **Make** | **Key Stage 1** | | | **Lower Key Stage 2** | | **Upper Key Stage 2** | |
| **Planning** | * plan by suggesting what to do next * select from a range of tools and equipment, explaining their choices * select from a range of materials and components according to their characteristics | | | * select tools and equipment suitable for the task * explain their choice of tools and equipment in relation to the skills and techniques they will be using * select materials and components suitable for the task * explain their choice of materials and components according to functional properties and aesthetic qualities * order the main stages of making | | * select tools and equipment suitable for the task * explain their choice of tools and equipment in relation to the skills and techniques they will be using * select materials and components suitable for the task * explain their choice of materials and components according to functional aesthetic qualities * produce appropriate lists of tools, equipment and materials that they need * formulate step-by-step plans as a guide to making | |
| **Practical**  **skills and techniques** | * follow procedures for safety and hygiene * use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components * measure, mark out, cut and shape materials and components * assemble, join and combine materials and components * use finishing techniques, including those from art and design | | | * follow procedures for safety and hygiene * use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components * measure, mark out, cut and shape materials and components with some accuracy * assemble, join and combine materials and components with some accuracy * apply a range of finishing techniques, including those from art and design, with some accuracy | | * follow procedures for safety and hygiene * use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components * accurately measure, mark out, cut and shape materials and components * accurately assemble, join and combine materials and components * accurately apply a range of finishing techniques, including those from art and design * use techniques that involve a number of steps * demonstrate resourcefulness when tackling practical problems | |
| **Evaluate** | **Key Stage 1** | | | **Lower Key Stage 2** | | **Upper Key Stage 2** | |
| **Own ideas and products** | * talk about their design ideas and what they are making * make simple judgements * about their products and ideas against design criteria * suggest how their products could be improved | | | * identify the strengths and areas for development in their ideas and products * consider the views of others, including intended users, to improve their work * refer to their design criteria as they design and make * use their design criteria to evaluate their completed products | | * identify the strengths and areas for development in their ideas and products * consider the views of others, including intended users, to improve their work * critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make * evaluate their ideas and products against their original design specification | |
| **Existing products** | * what products are * who products are for * what products are for * how products work * how products are used * where products might be used * what materials products are made from * what they like and dislike about products | | | * how well products have been designed * how well products have been made * why materials have been chosen * what methods of construction have been used * how well products work * how well products achieve their purposes * how well products meet user needs and wants * who designed and made the products * where products were designed and made * when products were designed and made * whether products can be recycled or reused | | * how well products have been designed * how well products have been made * why materials have been chosen * what methods of construction have been used * how well products work * how well products achieve their purposes * how well products meet user needs and wants * how much products cost to make * how innovative products are * how sustainable the materials in products are * what impact products have beyond their intended purpose | |
| **Key events and**  **individuals** | Not a requirement in KS1 | | * about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | | | | | |
| **Technical Knowledge** | **Key Stage 1** | | | **Lower Key Stage 2** | | **Upper Key Stage 2** | |
| **Making products work** | * about the simple working characteristics of materials and components * about the movement of simple mechanisms such as levers, sliders, wheels and axles * how freestanding structures can be made stronger, stiffer and more stable * that a 3-D textiles product can be assembled from two identical fabric shapes * that food ingredients should be combined according to their sensory characteristics * the correct technical vocabulary for the projects they are undertaking | | | * how to use learning from science to help design and make products that work * how to use learning from mathematics to help design and make products that work * that materials have both functional properties and aesthetic qualities * that materials can be combined and mixed to create more useful characteristics * that mechanical and electrical systems have an input, process and output * the correct technical vocabulary for the projects they are undertaking * how mechanical systems such as levers and linkages or pneumatic systems create movement * how simple electrical circuits and components can be used to create functional products * how to make strong, stiff shell structures * that a single fabric shape can be used to make a 3D textiles product * that food ingredients can be fresh, pre-cooked and processed | | * how to use learning from science to help design and make products that work * how to use learning from mathematics to help design and make products that work * that materials have both functional properties and aesthetic qualities * that materials can be combined and mixed to create more useful characteristics * that mechanical and electrical systems have an input, process and output * the correct technical vocabulary for the projects they are undertaking * how mechanical systems such as cams or pulleys or gears create movement * how more complex electrical circuits and components can be used to create functional products * how to program a computer to monitor changes in the environment and control their products * how to reinforce and strengthen a 3D framework * that a 3D textiles product can be made from a combination of fabric shapes * that a recipe can be adapted by adding or substituting one or more ingredients | |
| **Cooking and Nutrition** | **Key Stage 1** | | | **Lower Key Stage 2** | | **Upper Key Stage 2** | |
| **Where food comes from** | * that all food comes from plants or animals * 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 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 * how food is processed into ingredients that can be eaten or used in cooking | |
| **Food preparation,**  **cooking and nutrition** | * how to name and sort foods into the five groups in the eatwell plate * that everyone should eat at least five portions of fruit and vegetables every day * how to prepare simple dishes safely and hygienically, without using a heat source * 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 * how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking * that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate * 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 * how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking * that recipes can be adapted to change the appearance, taste, texture and aroma * that different food and drink contain different substances – nutrients, water and fibre – that are needed for health | |