Poulton Lancelyn DT Progression Map

2020-21

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum coverage	1. Design purposeful, functional, appealing products for themselves and other users based on design criteria. 2. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 5. Explore and evaluate a range of existing products. 6. Evaluate their ideas and products against design criteria. 7. Build structures, exploring how they can be made stronger, stiffer and more stable.	1. Design purposeful, functional, appealing products for themselves and other users based on design criteria. 2. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. 3. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. 4. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 5. Explore and evaluate a range of existing products. 6. Evaluate their ideas and products against design criteria. 7. Build structures, exploring how they can be made stronger, stiffer and more stable. 8. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	1. 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 2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 3. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. 4. 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. 5. Investigate and analyse a range of existing products. 6. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 7. Understand how key events and individuals in design and technology have helped shape the world. 8. Apply their understanding of computing to program, monitor and control their products.	1. 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 2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 3. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. 4. 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. 5. Investigate and analyse a range of existing products. 6. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 7. Understand how key events and individuals in design and technology have helped shape the world. 8. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].	1. 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 2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 3. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. 4. 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. 5. 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Design	1. To communicate their ideas and opinions on existing products through discussion 2. To describe how current products work and function 3. Design their own product through drawings, with templates to support when necessary 4. Label their designs with basic labels 5. Verbally explain the materials and tools they plan to use and why	1. Using other models, choose the best tools to create their product and explain why they will work best 2. Describe and label their own design with diagrams and words 3. After being given steps of a plan, suggest what should happen next in their planning process	1. Design a product that meets a range of design requirements 2. With modelling, plan a step-by-step guide which details the order of steps 3. Detail the tools and equipment needed 4. Describe their design using an accurate sketch and words 5. Ensure that their design is realistic and appropriate 6. Ensure that their plan enables an attractive project 7. Plan how to grow plants such as fruit or herb plants to add to their product	1. Decide on their own ideas to create their products 2. Work collaboratively to decide on a plan to design their product 3. Discuss the potential quality of their product 4. Ensure that their product is going to be liked by others 5. Devise a template or prototype to decide the strength and reliability of their product 6. Use their prototype or template to check if their design will be successful 7. Take into account what another use would want when choosing materials	1. After conducting research, come up with a range of ideas for their designs 2. Consider the user's opinion when designing a product 3. Produce a detailed, step-by-step plan 4. Explain why their finished product will be a good quality based on their plan 5. Explain how their plan meets the design criteria 6. Consider the user's opinion when choosing materials 7. Create a detailed prototype	1. Use a range of research to inform their designs 2. Use market research before planning their designs 3. Work within constraints (timing, budgeting, materials) 4. Work collaboratively to discuss and compromise on ideas and justify their own ideas to others 5. Consider culture and society, as well as the user's opinions, in their designs 6. Justify their selection of materials and measurements during their designing process 7. Use a prototype to consider what to improve in their design before production 8. Justify design in relation to the audience 9. Consider how their product could be sold – consider audience and purpose

Make	1. Select the correct tools and materials to complete make a purpose-built product 2. Use templates and nets to support them in constructing their products 3. Practise their cutting and gluing skills through accurately cutting and gluing materials together 4. Describe the materials they are using 5. Discuss ways of making their product stronger	1. With support, measure carefully chosen materials to produce appropriate product 2. Practise a variety of joining materials and, with support, choose the most appropriate way to join their materials 3. Cut more difficult materials such as textiles 4. Use techniques such as folding and rolling to make their products stronger/more secure	1. Joining different textiles in different ways 2. Choose textiles carefully based on appearance and appropriate qualities 3. Make their product neat and attractive 4. Choose the most appropriate tools and techniques for a given task 5. Accurately cut to make holes in a product 6. Use a range of techniques to shape and mould (cooking and nutrition) - identify and choose the right ingredients for a product (cooking and nutrition) – use equipment safely Grow their own product – taking account of time to grow different foods (ingredient for crumble?)	1. Produce an electrical circuit within their product 2. Use a number of electrical components in their product 3. Measure carefully so that materials are accurate and neat 4. Ensure their product is strong and reliable 5. Use a range of advanced techniques to shape and mould their product 6. Explain to others how to join things in different ways 7. Show a good development of skills when using a range of tools and equipment 8. Explain how to use a range of tools and materials safely 9. Present their product in interesting ways	1. To make a secure and attractive product 2. Use a range of joining techniques 3. Use a range of tools and equipment expertly 4. Display perseverance through increasingly trickier stages of the making process 5. Measure accurately enough to ensure that everything is precise and joins well 6. Incorporate a switch into their product 7. Incorporate hydraulics and pneumatics in their product 8. Test their product throughout the making process and adapt their design if necessary 9. Present their product to a high standard – ensure it is attractive	1. Use tools and materials with increased precision 2. Ensure throughout production that their work is accurate and precise 3. Hide joints to improve the overall look of their product 4. Adapt the way they are working dependent on their ongoing evaluations of the overall product's attractiveness and functionality 5. Refine their plan during the production process based on their evaluations 6. Include a circuit in their product

Evaluate	1. Explain how their finished product works and how they created it 2. Discuss their own work and compare it to other people's work 3. Explain the purpose of their product and discuss changes they could make to it	1. Discuss and explain what went well in their design and making process 2. Suggest basic changes to improve their products 3. Discuss, in more detail than Y1, how their product matches the design criteria set out by teacher	1. Make decisions to change their plan/design throughout the making process 2. Explain what they have changed to improve their product further 3. Discuss what others could add/change to improve their product further 4. (cooking and nutrition) – can they describe how their ingredients have come together	1. Explain how their original design could've been improved 2. Take time to consider how they could have made their idea better 3. Evaluate their product thinking of both appearance and its mechanisms 4. Use finishing techniques to show an awareness of audience 5. Suggest ways to improve their original design whilst also identifying the positive elements of their design	1. Ensure that their evaluation of their product's effectiveness is ongoing throughout their designing and making process 2. Be motivated to refine and improve their product, re-moulding materials if necessary 3. Suggest alternative plans and say what the good points and drawbacks are 4. Consistently check whether anything can be improved before going through with it 5. Evaluate the appearance and function against the original criteria	1. Test and evaluate their finished product 2. Discuss and decide whether it is fit for purpose (during the design, making and evaluating process) 3. Discuss a range of elements that could improve their product, including alternative resources 4. Decide whether they need to gain more information to make their product better 5. Consistently consider whether their product meets the design criteria 6. Consider the purpose of the product during the planning and making process 7. Change the way they are working during the making process if necessary

Technical Knowledge	1. Discuss to how make products stronger, more durable or more flexible 2. Discuss and give suggestions of how to make elements of their product move	1. Understand the importance of hygiene and safety during cooking and nutrition lessons 2. Demonstrate hygiene and safety during cooking and nutrition lessons 3. Discuss and demonstrate ways to make products stronger and more stable	1. After modelling, choose and apply a range of techniques to meet their design criteria 2. Use a range of equipment (including cooking and nutrition) safely, ensuring they are sticking to health and safety guidelines	1. Understand and use electrical systems in their products	1. Ensure products are strong and fit for purpose 2. Use a switch in their product 3. Include hydraulics and pneumatics in their product 4.Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	1. Understand precision and accuracy and its importance in a final product 2. Include a circuit in their product 3. Hide joints whilst ensuring their product is strong and stable (and safe for use)