LEADING LEARNERS Academy Trust

# Curriculum Progression of Skills – Design Technology

| Skill domains: | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Design** | • Use pictures and words to convey what they want to design/make.<br>• Explore ideas by rearranging materials.<br>• Select pictures to help develop ideas.<br>• Use mock-ups e.g. recycled material trial models to try out their ideas. | • Propose more than one idea for their product.<br>• Use ICT to communicate ideas.<br>• Use drawings to record ideas as they are developed.<br>• Add notes to drawings to help explanations. | • Develop more than one design or adaptation of an initial design.<br>• Plan a sequence of actions to make a product.<br>• Think ahead about the order of their work and decide upon tools and materials.<br>• Propose realistic suggestions as to how they can achieve their design ideas. | • Record the plan by drawing using annotated sketches.<br>• Use prototypes to develop and share ideas.<br>• Consider aesthetic qualities of materials chosen.<br>• Use CAD where appropriate. | • Record ideas using annotated diagrams.<br>• Use models, kits and drawings to help formulate design ideas.<br>• Sketch and model alternative ideas.<br>• Decide which design idea to develop. | • Plan the sequence of work.<br>• Devise step by step plans which can be read/followed by someone else.<br>• Use exploded diagrams and cross-sectional diagrams to communicate ideas. |
| **Make** | • Select materials from a limited range.<br>• Explain what they are making.<br>• Name the tools they are using. | • Discuss their work as it progresses.<br>• Select and name the tools needed to work the materials.<br>• Explain which materials they are using and why. | • Select from a range of tools for cutting, shaping, joining and finishing.<br>• Use tools with accuracy.<br>• Select from materials according to their functional properties.<br>• Use appropriate finishing techniques. | • Prepare pattern pieces as templates for their design.<br>• Select from techniques for different parts of the process. | • Develop one idea in depth.<br>• Select from and use a wide range of tools.<br>• Cut accurately and safely to a marked line.<br>• Select from and use a wide range of materials. | • Make prototypes.<br>• Use researched information to inform decisions.<br>• Produce detailed lists of ingredients / components / materials and tools.<br>• Refine their product – review and rework/improve. |
| **Evaluate** | • Explore existing products and investigate how they have been made (including teacher-made examples).<br>• Talk about their design as they develop and identify good and bad points.<br>• Say what they like and do not like about items they have | • Decide how existing products do/do not achieve their purpose.<br>• Discuss how closely their finished product meets their own design criteria. | • Investigate similar products to the one to be made to give starting points for a design.<br>• Research needs of user.<br>• Decide which design idea to develop.<br>• Consider and explain how the finished product could be improved. | • Draw/sketch existing products in order to analyse and understand how products are made.<br>• Identify the strengths and weaknesses of their design ideas in relation to purpose/user. | • Research and evaluate existing products.<br>• Consider user and purpose.<br>• Consider and explain how the finished product could be improved related to design criteria. | • Identify the strengths and weaknesses of their design ideas.<br>• Report using correct technical vocabulary.<br>• Discuss how well the finished product meets the design criteria having tested |

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| | made and attempt to say why. | | • Discuss how well the finished product meets the user's design criteria.<br>• Investigate key events and individuals in design and technology. | • Consider and explain how the finished product could be improved.<br>• Investigate key events and individuals in design and technology. | • Investigate key events and individuals in design and technology. | on/discussed outcomes with the user.<br>• Understand how key people have influenced design in a variety of contexts.<br>• Investigate key events and individuals in design and technology. |
| **Technical Knowledge**<br>*(Select as appropriate to the focus of the design and technology focuses in the year group)* | • Show how to stiffen some materials.<br>• Know how to make a simple structure more stable.<br>• Attach wheels to a chassis using an axle.<br>• Know some different ways of making things move in a 2-D plane. | • Start to use technical vocabulary.<br>• Cut out shapes which have been created by drawing round a template.<br>• Join materials in a variety of ways.<br>• Decorate using a variety of techniques. | • Use an increasingly appropriate technical vocabulary for tools materials and their properties.<br>• Understand seam allowance.<br>• Prototype a product.<br>• Sew on buttons and make loops.<br>• Strengthen frames with diagonal struts.<br>• Measure and mark square section, strip and dowel accurately to 1cm.<br>• Incorporate a circuit into a model.<br>• Use electrical systems such as switches bulbs and buzzers.<br>• Use ICT to control products.<br>• Use linkages to make movement larger or more varied. | • Use an increasingly appropriate technical vocabulary for tools materials and their properties.<br>• Understand seam allowance.<br>• Prototype a product.<br>• Sew on buttons and make loops.<br>• Strengthen frames with diagonal struts.<br>• Measure and mark square section, strip and dowel accurately to 1cm.<br>• Incorporate a circuit into a model.<br>• Use electrical systems such as switches bulbs and buzzers.<br>• Use ICT to control products.<br>• Use linkages to make movement larger or more varied. | • Use mechanical systems such as cams, pulleys and gears.<br>• Use electrical systems such as motors and switches.<br>• Program, monitor and control using ICT. | • Use the correct vocabulary appropriate to the project.<br>• Join materials using appropriate methods.<br>• Create 3=-D textile products using pattern pieces.<br>• Understand pattern layout with textiles.<br>• Cut strip wood, dowel, square section wood accurately to 1mm.<br>• Build frameworks to support mechanisms.<br>• Stiffen and reinforce complex structures. |

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| **Cooking and Nutrition** | • Group familiar food products e.g. fruit and vegetables.<br>• Cut and chop a range of ingredients.<br>• Work safely and hygienically.<br>• Know about the need for a variety of foods in a diet. | • Cut, peel, grate, chop a range of ingredients.<br>• Work safely and hygienically.<br>• Know about the *Eatwell Plate*.<br>• Understand where food comes from. | • Follow instructions/recipes.<br>• Join and combine a range of ingredients.<br>• Begin to understand the food groups on the *Eatwell Plate*. | • Make healthy eating choices – use the *Eatwell plate.*<br>• Understand seasonality.<br>• Know where and how ingredients are reared and caught.<br>• Prepare and cook using different cooking techniques. | • Join and combine a widening range of ingredients.<br>• Select and prepare foods for a particular purpose.<br>• Know where and how ingredients are grown and processed. | • Understand and apply the principles of a healthy and varied diet.<br>• Choose ingredients to support healthy eating choices when designing their food products.<br>• Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques. |