| DT curriculum in Y5 – Processes | | |
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| **Rationale**<br>Pupils will be given a range of opportunities and experiences in Y5 to ensure that all pupils can respond to design criteria and suggest designs to problems. They will be introduced to the notion of a prototype and how this can help support a project and tackle issues which may arise. Mechanisms will be studied but in the form of a pop up book rather than a structure. Pupils will be encouraged to build innovative, functional, appealing, structures that are fit for purpose. Children will be helped to consider and use finishing techniques to strengthen and improve the appearance of their models/projects. | | |
| **Prior Knowledge** | **Learning** | **Future Learning** |
| **In Y4 pupils are taught to:**<br>• Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.<br>• Create designs using exploded diagrams.<br>• Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks.<br>• Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user.<br>• Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas.<br>• Understand and use electrical systems in products | **In Y5 pupils are taught to:**<br>• Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product.<br>• Create prototypes to show his/her ideas.<br>• Make careful and precise measurements so that joins, holes and openings are in exactly the right place.<br>• Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques.<br>• Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work.<br>• Build more complex 3D structures and apply his/her knowledge of | **In Y6 pupils are taught to:**<br>• Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products.<br>• Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.<br>• Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities.<br>• Use technical knowledge accurate skills to problem solve during the making process.<br>• Use his/her knowledge of famous designs to further explain the |

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| | strengthening techniques to make them stronger or more stable.<br>• Understand how to use more complex mechanical and electrical systems | effectiveness of existing products and products he/she have made.<br>• Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.<br>• Apply his/her understanding of computing to program, monitor and control his/her product. |
| ***Key Vocabulary***<br>*design, template, fabric, annotated sketches, cross-section, diagram, prototype*<br>*winding, mechanism,, winder, slider, levers, , rafter*<br>*strengthen, structure, stronger, stiffer, stable, rigid*<br>*measure, mark out, cut, assemble, join, evaluate,*<br>*diagonal, strut, exploded diagram, internal, precise*<br>*mechanical, electrical, complex* | | |