

The Nar Valley Federation of Church Academies DT Skills Progression



Skills Progression

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.</p> <p>Explores what happens when they mix colours. Experiments to create different textures. Understands that different media can be combined to create new effects. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using.</p>	<p>Create simple designs for a product. Use pictures and words to describe what he/she wants</p> <p>Can make a simple plan before making. Build structures, explore how they can be made stronger, stiffer and more stable</p> <p>Select from a range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing)</p> <p>Use a range of simple tools to cut and join and combine materials and components safely</p> <p>Can describe how something works.</p> <p>Use wheels and axels in a product</p> <p>Ask simple questions about existing products and those that he/ she has made</p>	<p>Choose appropriate tools, equipment and techniques and materials from a wide range.</p> <p>Can think of an idea and plan what to do next, communicating my ideas through talking, drawing and labelling. Design purposeful, functioning, appealing products for himself/ herself and other users based on a design criteria</p> <p>Safely measure, mark out, cut and shape materials and components using a range of tools. Chooses appropriate resources and tools. Evaluate and assess existing products and those that he/she has made using a design criteria</p> <p>Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Generate, develop, model and communicate</p>	<p>Use knowledge of existing products to design his/her own functional product. Strengthen frames using diagonal struts. Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.</p> <p>Can produce a plan and explain it. Create designs using annotated sketches cross-sectional diagrams and simple computer programmes</p> <p>Investigate and analyse existing products and those he/ she has made, considering a wide range of factors</p> <p>Safely measure, mark out, cut, assemble and join with some accuracy</p> <p>Joins materials and components in different ways.</p> <p>Can prove that his/her design meets some set criteria.</p> <p>Generate, develop, model and communicate</p>	<p>Creates designs using exploded diagrams.</p> <p>Can produce a detailed plan and explain it. Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. Consider how existing products and his/her finish products might be improved and how well they meet the needs of the intended user.</p> <p>Can measure and cut accurately using the correct equipment. Can join materials together using the best method for the material. Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas. Evaluate and suggest improvements for my designs.</p> <p>Uses techniques that require more accuracy to cut, shape and finish his/her work e.g cutting internal shapes, slots in</p>	<p>Use his/ her research into existing products and his/her market research to inform the design of his/her own innovative product. Can come up with a range of ideas after collecting information from different sources. Creates prototypes to show his/ her design. Makes careful and precise measurements so that joins, holes and openings are in exactly the right place. 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. Can use a range of tools and equipment competently. Make detailed evaluations about existing products and his/ her own considering the views of other to improve his/ her work.</p>	<p>Use research he/ she has done into famous designers and inventors to inform the design of his/ her own innovative products</p> <p>Generate, develop, model and communicate his/ her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams.</p> <p>Generate, develop, model and communicate his/ her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design. Apply his/ her knowledge of materials and techniques to refine and rework his/ her product to improve its functional properties and aesthetic qualities. Use technical knowledge, accurate skills to problem solve during the making process. Use his/ her knowledge of famous designers to further</p>

The Nar Valley Federation of Church Academies DT Skills Progression



		his/her ideas through talking drawing, templates, mock-ups and where appropriate information and communication technology.	his/her ideas through talking drawing, templates, mock-ups and where appropriate information and communication technology.	frameworks. Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them. Understand and use electrical systems in products.	Evaluate appearance and function against original criteria. Build more complex 3D structures and apply his/ her knowledge of strengthening techniques to make them stronger or more stable. Understand how to make more complex mechanical and electrical systems.	explain the effectiveness of existing products, he/ she has made. Can test and evaluate my products against clear success criteria Use a wide range of methods to stiffen, strengthen and reinforce complex structures and can use them accurately and appropriately Apply his/her knowledge of computing to program, monitor and control his/ her product
--	--	--	--	---	--	---

Knowledge Progression

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Know how to cut and join</p> <p>Know how to create simple designs</p> <p>Know how to use simple tools</p> <p>Understand that different media can be combined to create new effects</p>	<p>Know how to cut and join</p> <p>Know how to attach wheels and axels</p> <p>Know ways to strengthen structures</p> <p>Know how to create simple designs</p> <p>Know how to use simple tools</p>	<p>Know how to implement a design criteria</p> <p>Know which tools to select for a range of materials.</p> <p>Knowledge of measurement</p> <p>Knowledge of how to use a design criterion effectivity.</p>	<p>Know how to measure accurately</p> <p>Have knowledge of simple computer programmes.</p> <p>Have knowledge of existing, functional products.</p> <p>Know how to analyse products considering a range of factors.</p> <p>Know how to strengthen frames using diagonal struts.</p>	<p>Have knowledge of exploded diagrams</p> <p>Have knowledge of different audiences.</p> <p>Have knowledge of different techniques to assemble accurately.</p> <p>Knowledge of aesthetic qualities of a wide range of materials.</p> <p>Knowledge of ways to improve a product.</p> <p>Knowledge of electrical systems.</p>	<p>Know how to carry out market research.</p> <p>Know how to create a prototype.</p> <p>Knowledge of a wide range of tools, materials and techniques.</p> <p>Knows how to incorporate the views of others.</p> <p>Knows the elements of a detailed evaluation.</p> <p>Knowledge of complex strengthening techniques.</p> <p>Knowledge of complex electrical systems.</p>	<p>Knowledge of famous designers and inventors.</p> <p>Knows and understands how to incorporate the use of annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design into a final design.</p> <p>Knowledge of ways to refine a product based on aesthetic and functional qualities</p> <p>Wide range of problem solving skills</p>

The Nar Valley Federation of Church Academies DT Skills Progression



Vocabulary Progression

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cut Thread Shape Join Build Tools Materials Design	Design Create Build Structure Shape Join Cut Wheels Axels Product Plan	Purpose Function Investigate Model Template Techniques Methods Measure Evaluate Assess	Strengthen Frames Annotate Sketches Analyse Assemble Accuracy Techniques Research	Audience Framework Aesthetics Quality Improve Apply Electrical systems User	Prototypes Innovative Precision Demonstrate Informative Market Research	Designers Inventors Exploded diagrams Cross-sectional Refine Effectiveness Stiffen Program

Suggested Project Ideas KS1

- Hand puppets
- Sweet machine
- Moving vehicle
- Wooden spoon puppets
- Pop up books

Suggested Project Ideas KS2

- Build a stone Age House (diagonal struts)
- Roman Catapult
- Viking boat
- Motorised Moon Buggy
- Make a light house (structure & electrical)
- Tudor house
- Olympic Torch (complex mechanical/Electrical components)
- Build a bridge
- Make a fabric satchel
- 3D models of a landscape - Virtual Computerised Programme
- Design and make a prototype gaming chair