

DT curriculum in Y6

Rationale

A range of opportunities and experiences are provided in Y6 to ensure that all pupils will be able to evaluate existing products and apply this knowledge to given design criteria in order to solve a problem and produce a product which meets the design needs.

This will include a textiles project which may involve the skill of pinning and tacking fabric pieces together and joining some by over-sewing.

They will be helped to make quality products with increasing accuracy and independence.

The children are also to be helped to understand how inventions in the past have helped to make our life be as it is now and how these designs have made life easier for others.

Children will also have an understanding of a range of mechanisms and be encouraged to be individual in their responses and have an increasing independence and ability in meeting design needs. They will be helped to build innovative, functional, appealing, stable structures that are fit for purpose and to demonstrate confidently how to reinforce and strengthen a 3D framework drawing on knowledge acquired in previous projects.

Learning

Prior Knowledge

In Y5 pupils are taught to:

- Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product.
- Create prototypes to show his/her ideas.
- Make 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.
- Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work.
- Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable.

In Y6 pupils are taught to:

- Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products.
- 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 designs to further explain the effectiveness of existing products and products he/she have made.

Future learning:

Children will be able to consider design criteria and know how best to respond to this drawing on knowledge of previous projects. To show their understanding through drawings, exploded diagrams, annotated sketches and prototypes.

• Understand how to use more complex mechanical and electrical systems.

• Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.

• Apply his/her understanding of computing to program, monitor and control his/her product.

Key Vocabulary

*design, template, fabric, annotated sketches, cross-section, diagram, prototype, innovative, functional, aesthetic
winding, mechanism, wheels, axles, winder, slider, levers, linkage, cross brace, cantilever
strengthen, structure, stronger, stiffer, stable, rigid
measure, mark out, cut, assemble, join, evaluate, effective
diagonal, strut, exploded diagram, internal, precise
mechanical, pneumatic, electrical, complex
design criteria, function*