

Milestones

Design Technology (DT)

Cycle A

It is our aim that children in Year 4 will be achieving at the Basic level as they begin their journey of experiencing these areas of the Design Technology curriculum. Year 5 children will achieve the 'Basic' to 'Expected' levels and Year 6 children will be achieving at the 'Expected' and 'Deep' level.

Mechanical Systems (CAMS)	Basic :	Expected:	Deep:
Prior Learning/ Experiences			
Experience of axles, axle holders and wheels that are fixed or free moving.			
Basic understanding of different types of movement.			
Experience of cutting and joining techniques with a range of materials including card, plastic and wood.			
An understanding of how to strengthen and stiffen structures.			
Designing			
Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.			
Develop a simple design specification to guide their thinking.			
Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.			
Making			
Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team.			
Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.			
Evaluating			
Compare the final product to the original design specification.			
Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.			
Consider the views of others to improve their work.			
Investigate famous manufacturing and engineering companies relevant to the project.			
Technical knowledge and understanding			
Understand that mechanical systems have an input, process and an output.			

Understand how cams can be used to produce different types of movement and change the direction of movement.			
Know and use technical vocabulary relevant to the project.			
Textiles (Using CAD in Textiles)	Basic:	Expected:	Deep:
Prior Learning/ Experiences			
Experience of stitching, joining and finishing techniques in textiles.			
Experience of making and using textiles pattern pieces.			
Experience of simple computer-aided design applications.			
Designing			
Generate innovative ideas through research including surveys, interviews and questionnaires.			
Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes including using computer-aided design.			
Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.			
Making			
Produce detailed lists of equipment and fabrics relevant to their tasks.			
Formulate step-by-step plans and, if appropriate, allocate tasks within a team.			
Select from and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.			
Evaluating			
Investigate and analyse textile products linked to their final product.			
Compare the final product to the original design specification.			
Test products with intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.			
Consider the views of others to improve their work.			
Technical knowledge and understanding			
A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.			
Fabrics can be strengthened, stiffened and reinforced where appropriate.			

Structures (Frames)	Basic:	Expected:	Deep:
Prior Learning/ Experiences			
Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.			
Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.			
Designing			
Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.			
Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.			
Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.			
Making			
Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.			
Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.			
Use finishing and decorative techniques suitable for the product they are designing and making.			
Evaluating			
Investigate and evaluate a range of existing frame structures.			
Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.			
Research key events and individuals relevant to frame structures.			
Technical knowledge and understanding			
Understand how to strengthen, stiffen and reinforce 3-D frameworks			
Know and use technical vocabulary relevant to the project.			