

Textiles

Designing

Generate innovative ideas by carrying out research including surveys, interviews and questionnaires.

Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, 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 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 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.

Mechanical Systems

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 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 intended user 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 and electrical systems have an input, process and an output.

Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.

Know and use technical vocabulary relevant to the project.

Structures

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.



End of Year Expectations

Design and Technology

Year 5