




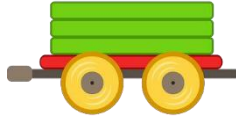

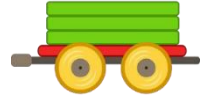



| KS1 | We are Textiles Designers | We are Constructors | We are Mechanics |
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| KS1 – Year 1, Year 2 and Year 2/3 |  |  |  |
| | <p><u>Design</u></p> <ul style="list-style-type: none"> Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. <p><u>Make</u></p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria. | <p><u>Design</u></p> <ul style="list-style-type: none"> Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings. <p><u>Make</u></p> <ul style="list-style-type: none"> Plan by suggesting what to do next. Select and use tools, skills and techniques, explaining their choices. Select new and reclaimed materials and construction kits to build their structures. Use simple finishing techniques suitable for the structure they are creating. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. | <p><u>Design</u></p> <ul style="list-style-type: none"> Generate initial ideas and simple design criteria through talking and using own experiences. Develop and communicate ideas through drawings and mock-ups. <p><u>Make</u></p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> Explore and evaluate a range of products with wheels and axles Evaluate their ideas throughout and their products against original criteria. |
| <p><u>Technical knowledge KS1</u></p> <p>Build structures, exploring how they can be made stronger, stiffer, and more stable.</p> <p>Explore mechanisms, for example levers, sliders, wheels, and axles, in their products,</p> <p>Design purposeful, functional, and appealing products for themselves and other users based on a design criteria.</p> <p>Communicate their designs through talking, drawings and templates then evaluate their ideas against a design criteria.</p> <p>Select and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining, and finishing</p> <p>Use a wide range of materials and components e.g. construction, materials, textiles, and ingredients.</p> | | | |

| LKS2 | We are Textiles Designers | We are Constructors/Graphic Designers | We are Mechanics |
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| LKS2 – Year 3-4 and 4 |  |  |  |
| | <p>Design</p> <ul style="list-style-type: none"> • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces. <p>Make</p> <ul style="list-style-type: none"> • Plan the main stages of making. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. • Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. <p>Evaluate</p> <ul style="list-style-type: none"> • Investigate a range of 3-D textile products relevant to the project. • Test their product against the original design criteria and with the intended user. • Take into account others' views. • Understand how a key event/individual has influenced the development of the chosen product and/or fabric. | <p>Design</p> <ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through talking, mock-ups and drawings. <p>Make</p> <ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable for the structure they are creating. <p>Evaluate</p> <ul style="list-style-type: none"> • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. • Evaluate product by discussing how well it works. | <p>Designing</p> <ul style="list-style-type: none"> • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. <p>Evaluating</p> <ul style="list-style-type: none"> • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. |
| | <p>Technical knowledge LKS2</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce structures Understand and use mechanical systems e.g. gears, pulleys, cams, levers and linkages) Use research to develop a design criteria and inform the design of purposeful, functional and appealing products that are fit for purpose Select from and use a wider range of tools and equipment to perform practical tasks eg cutting, joining and finishing Investigate and analyse a range of existing products. Evaluate their ideas against their own design criteria</p> | | |

| UKS2 | We are Textile Designers | We are Mechanics | We are Constructors (structures) |
|------------------------------------|---|---|--|
| UKS2 – Year 5, Year 5/6 and Year 6 |  |  |  |
| | <p><u>Design</u></p> <ul style="list-style-type: none"> • 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, computeraided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. <p><u>Make</u></p> <ul style="list-style-type: none"> • 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. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • 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. | <p><u>Design</u></p> <ul style="list-style-type: none"> • 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. <p><u>Make</u></p> <ul style="list-style-type: none"> • 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. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • 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. | <p><u>Design</u></p> <ul style="list-style-type: none"> • 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. <p><u>Make</u></p> <ul style="list-style-type: none"> • 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. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • 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 UKS2

Apply their understanding of computing to program and control products

Understand and use electrical systems in their products (series circuit, switches, buzzers bulbs)

Generate and develop, model and communicate their ideas through discussion, annotated sketches, diagrams, prototypes and computer aided design

Select from wider materials and components including construction materials, textiles and ingredients.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work