

Curriculum Intent:

To use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values and to be able to evaluate past and present design technology, its uses and



| Subject | Term | Unit |
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| DT | Spring | Textiles – Using computer-aided design in textiles. |

| Prior knowledge Building on knowledge and skills | National Curriculum Focus |
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| <ul style="list-style-type: none"> Experience of stitching, joining and finishing techniques in textiles. Experience of making and using textiles pattern pieces. Experience of simple computer-aided design applications. | <p>Design</p> <ul style="list-style-type: none"> use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to |

their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

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| What? | Designing, making and evaluating a designer bag |
| Why? | To begin to understand how to how to sew and use CAD. |

| Key vocabulary | | | |
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| Mock up | Quick 3-D modelling using easy to work materials. Useful for checking proportions and scale. | Tacking | Large running stitches to hold pieces of fabric together temporarily. |
| Pattern/template | A shape drawn to exact shape and size. | Working drawing | Detailed drawing contains all information needed to make the product. |
| Seam allowance | Extra fabric allowed for joining, usually 15mm. | CAD | Computer-aided design. |
| Specification | This describes what a product has to do. | CAM | Computer-aided manufacture. |

Key learning

| Objective | Learning |
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| Can I explore and evaluate a range of existing products? | <ul style="list-style-type: none"> Children investigate and evaluate a range of existing textiles products and how they have been constructed using disassembly, and evaluate what the fabric shapes look like, how the parts have been joined, how the product has been strengthened and stiffened, what fastenings have been used and why. Investigate work by designers and their impact on fabrics and products. Use questions to develop understanding e.g. Is the product functional or decorative? Who would use this product? What is its purpose? What design decisions have been made? Do the textiles used match the intended purpose? How has it been made? What has been used to enhance the appearance? Is the design innovative? Children investigate properties of textiles through investigation e.g. exploring insulating properties, water resistance, wear and strength of textiles. |
| Can I explore how to use CAD? | <ul style="list-style-type: none"> Develop computer-aided design (CAD) skills by using pattern making software to generate, modify, scale, save and print pattern pieces. Recognise that designs can be easily modified and repeated on the computer without the need for a physical product. Investigate using art packages on the computer to design prints that can be applied to textiles using iron transfer paper. Develop skills of 2-D paper pattern making using CAD and create a 3-D paper or Dipryl mock-up of a chosen product. Remind/teach how to pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and use different cutting techniques. Develop skills of threading needles and joining textiles using a range of stitches, building upon children's earlier experiences of stitches e.g. improving appearance and consistency of stitches and introducing new stitches. If available, demonstrate and allow children to use sewing machines to join fabric with close adult supervision. Develop skills of sewing textiles by joining right side together and making seams. Children should investigate how to sew and shape curved edges by snipping seams, how to tack or attach wadding or stiffening and learn how to start and finish off a row of stitches. |
| Can I design purposeful, functional, appealing products for themselves and other users based on a design criteria? | <ul style="list-style-type: none"> Set an authentic and meaningful design brief. Children generate ideas by carrying out research using surveys, interviews, questionnaires and the internet. Develop a design specification for their product. Communicate ideas through detailed, annotated drawings from different perspectives. Drawings should indicate the design decisions made, methods of strengthening, the type of fabrics to be used and the types of stitching that will be incorporated. Produce step-by-step plans, lists of tools equipment, fabrics and components needed. Allocate tasks within a team if appropriate. |
| Can I select from and use a range | <ul style="list-style-type: none"> Develop their design using CAD software to produce pattern pieces and art programmes to produce decoration and design prints that can be applied to textiles. |

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| <p>of tools, equipment, materials and components to make a product?</p> | <ul style="list-style-type: none"> • Make high quality products applying knowledge, understanding and skills from IEAs and FTs. Incorporate simple computer-aided manufacture (CAM) if appropriate e.g. printing on fabric. Use a range of techniques to ensure a well-finished final product that matches the intended user and purpose. |
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| <p>Can I evaluate their ideas and products against a design criteria?</p> | <ul style="list-style-type: none"> • Evaluate both as the children proceed with their work and the final product in use, comparing the final product to the original design specification. Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for intended user and purpose, considering others' opinions. Communicate the evaluation in various forms e.g. writing for a particular purpose, giving a well-structured oral evaluation, speaking clearly and fluently. |
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Websites

- [Primary Subject Leaders' File Section 5.6](#)
- [Designing with textiles](#)
- [Designer bags](#)
- [Fancy a Bag](#)
- [A to Z of D&T](#)
- [Working with Materials](#)

Recommended Reads



