

***Our Intent is: To support our pupils in answering the question, "How do we design, make and evaluate solutions to real and relevant problems?" Using creativity and innovation, we inspire pupils to develop skills which impact on daily life.***



## Forton Primary School Design and Technology

Clougha Class  
Autumn 1  
Year A

Key Concept: Textiles

Focus: 2D shape to 3D shape

Key Question: How can flat pieces of fabric become 3D?

### **N.C. LINKS:**

When designing and making, pupils should be taught to: **Design**

- 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
- **Make**
- 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
- **Technical knowledge**
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

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	<ul style="list-style-type: none"> <li>• understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>• apply their understanding of computing to program, monitor and control their products</li> </ul>
<p><b>Unit Overview:</b> To design and make a pattern to cut out shapes to make a 3D object.</p>	<p><b>Vocabulary:</b> fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance</p> <p>user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces</p>
<p><b>Possible Outcome:</b> purse/wallet soft toy/mascot apron fashion accessory beach bag shoe bag pencil case story sack</p>	
<p><b>Intended User:</b> themselves friends family teachers children parents other adults</p>	
<p><b>Building on Prior learning KS1:</b></p> <ul style="list-style-type: none"> <li>• Explored and used different fabrics.</li> <li>• Cut and joined fabrics with simple techniques.</li> <li>• Thought about the user and purpose of products.</li> </ul>	<p><b>Building on Prior learning when B follow A:</b> Have joined fabric in simple ways by gluing and stitching.</p> <ul style="list-style-type: none"> <li>• Have used simple patterns and templates for marking out.</li> <li>• Have evaluated a range of textile products.</li> </ul>

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## **Key Skills (Disciplinary)**

### **Designing**

- 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.

### **Making**

- 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.

### **Evaluating**

- 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.

### **Technical knowledge and understanding**

- Know how to strengthen, stiffen and reinforce existing fabrics.
- Understand how to securely join two pieces of fabric together.
- Understand the need for patterns and seam allowances.
- Know and use technical vocabulary relevant to the project.

## **Sequence of Lessons:**

1. Investigative and Evaluative Activities

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- Children investigate a range of textile products that have a selection of stitches, joins, fabrics, finishing techniques, fastenings and purposes, linked to the product they will design, make and evaluate. Think about products from the past and what changes have been made in textile production and products e.g. the invention of zips and Velcro.
- Give children the opportunity to disassemble appropriate textiles products to gain an understanding of 3-D shape, patterns and seam allowances.
- Use questioning to develop understanding e.g. *What is its purpose? Which one is most suited to its purpose? What properties/characteristics does the fabric have? Why has this fabric been chosen? How has the fabric been joined together? How effective are its fastenings? How has it been decorated? Does its decoration have a purpose? What would the 2-D pattern piece look like? What are its measurements? How might you change the product?*

## **2. Focused Tasks**

- Demonstrate a range of stitching techniques and allow children to practise sewing two small pieces of fabric together, demonstrating the use of, and need for, seam allowances.
- Allow children to use a textile product they have taken apart to create a paper pattern using 2-D shapes.
- Provide a range of fabrics – children to consider whether fabrics are suitable for the chosen purpose and user. The fabrics also can be used for demonstrating and testing out a range of decorative finishing techniques e.g. appliqué, embroidery, fabric pens/paints, printing.
- Use questioning to develop understanding e.g. *Which joining technique makes the strongest seam? Why? Which stitch is appropriate for the purpose? Which joining techniques are suitable for the fabric and purpose? How can you stiffen your fabric? What is the purpose of the fastenings? Which one is most suited to the purpose and user? What decorative techniques have been used? What effect do they have?*

## **3. Design, Make and Evaluate Assignment**

- Children to create a design brief, supported by the teacher, set within a context which is authentic and meaningful. Discuss the intended user, purpose and appeal of their product. Create a set of design criteria.
- Ask children to sketch and annotate a range of possible ideas, constantly encouraging creative thinking. Produce mock-ups and prototypes of their chosen product.
- Plan the main stages of making e.g. using a flowchart or storyboard.
- Children to assemble their product using their existing knowledge, skills and understanding from IEAs and FTs. Encourage children to think about the aesthetics and quality finish of their product.

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- Evaluate as the process is undertaken and the final product in relation to the design brief and criteria. The product should be tested by the intended user and for its purpose and others' views sought to help with identifying possible improvements.

Enhancements: N/A

End of Unit Outcome: 3D toy/object